The Croonian Lectures
ON
PLAGUE.

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LECTURE II.[1]

Delivered on June 20th.

THE PRESENT PANDEMIC.

MR. PRESIDENT AND FELLOWS,—The present pandemic has no connexion with the plagues arising in Mesopotamia the chief features of which, as shown by Tholozan, were, during the latter part of the nineteenth century, those of comparative mildness, spontaneous cessation, and self limitation, irrespectively of preventive measures. It would appear that the strain of the Mesopotamian virus has become attenuated both in powers of attack and powers of diffusion and that it required a virus derived from a new source or from another endemic centre to produce a plague endowed with more virulent and diffusive qualities.

The Chinese endemic centre in Yunnan, from which the present pandemic is derived, is, like the endemic centres in Arabia and India, between 5000 and 7000 feet high, and in this respect differs from some of the older endemic centres which are low lying. Yunnan has been known as an endemic centre of plague since 1870 but there are Chinese records which seem to indicate that the disease probably existed there for over 100 years, for mention is made of a strange and fatal rat disease prevailing at the end of the eighteenth century which also infected the inhabitants. There are no records discovered which make the endemic centre older than this and there is no evidence to show that the Black Death of 1348 arose from Yunnan. It is not known exactly when the present pandemic overflowed its boundaries and invaded the adjoining provinces of Kwangtung and Kwangsi. Plague had passed over the boundary several times during the Mahommedan rebellion in Yunnan and in 1867 reached Pahhoi, a small seaport on the southern coast of China, but there appears to have been no very extensive epidemic. As far as can be ascertained it was about the year 1890 that the disease began to show unusual activity. At that time the annual recrudescences in Mentze, one of the principal trading towns in the south-east portion of the province, became more severe and there was an extension of the disease to some of the towns situated on the West or Canton River and which have trade relations with Mentze and Canton. Gradually an extended area of the western parts of Kwangsi and Kwantung became affected and in January, 1894, Canton was attacked. Canton is the chief port as well as the largest and most important city in Southern China. It is only 80 miles from Hong-Kong, which, situated at the mouth of the Pearl River, contains a population that is mainly Cantonese, and so great is the intercourse between them that Hong-Kong has been styled the suburb of Canton. Hong-Kong became infected in May, 1894. Recrudescences of plague have occurred more or less in Canton and Hong-Kong since. Canton and Hong-Kong are the great marts and distributing centres for the produce of Southern China and have trade connexions with the southern parts of China, the neighbouring islands of the Pacific, and with India, Australia, Japan, and America. They were accordingly favourably situated as distributors of plague to all those countries adjacent and distant with which they had commercial relations. Their ships carried infection to the seaports of other countries, and these in their turn infected other places. The course of the spread of plague has differed from all previous pandemics in that its distribution has been by sea routes, in contradistinction to former pandemics which spread by land routes and coasting vessels. With the exception of India and one or two places in South Africa and America the infected localities are mostly on the coast, and the history of their infection is importation of the disease from some infected port with which they carry on commercial relations. Any circumstance which increases to an unusual extent the transport of goods from infected ports increases the risk of importation of the disease. Thus, the war in South Africa, with its enormous shipments of grain and fodder from the Argentine and from India, whose ports were infected with plague, introduced the disease into Cape Town and Port Elizabeth, where the rats in the docks were the first to become infected. The Russo-Japanese war was, fortunately for Europe, out of the zone of any badly plague-infected district.

Many places have been infected in different parts of the world, but none outside India have hitherto given rise to any very serious epidemic. Still, notwithstanding its apparent inability to develop into an epidemic, yet the disease has in many instances when imported into a locality shown a remarkable persistence as displayed by the annual recurrence of sporadic cases at the season of the year favourable to epidemic plague. The potentiality of plague becoming epidemic in such localities is there all the same and no country is safe while it retains infection.

THE EPIDEMIC IN INDIA.

At present, however, the chief interest of this pandemic lies in India. Imported into the city of Bombay in 1896 from Hong-Kong it broke out in epidemic form in September of that year, and by the end of April, 1897, when the first epidemic was over, it had caused 11,000 deaths. Every year there has been a recrudescence and the total number of deaths from plague in Bombay since its appearance till the end of 1906 is 150,000. From Bombay city it spread to the Bombay Presidency, chiefly by coasting boats and by the railways carrying fugitives infected with plague to their native villages. By December, 1897, 50,000 deaths had occurred in the Presidency, and a few deaths in some of the other provinces. It has continued ever since in this Presidency and has, up to the end of April, 1907, caused 1,500,000 deaths. Gradually the disease has spread to the other provinces of India, affecting some severely and some lightly, and the grand total of deaths from plague in India, as shown in the following statement of annual deaths, amounts to over 5,000,000:—

Total Recorded Annual Deaths from Plague in India.

Years.	British Territory.	Native States.	Total.
Sept., 1896, to end of 1897	57,000	—	57,000
1898	89,200	27,000	116,200
1899	102,300	36,600	138,900
1900	73,500	19,200	92,700
1901	234,600	46,100	280,700
1902	445,200	126,900	572,100
1903	701,800	179,000	880,800
1904	938,000	203,300	1,141,300
1905	940,800	128,300	1,069,100
1906	—	—	332,000
1907 (first 4 months)	—	—	641,000
			5,321,800

The population of British territory is 232,000,000 and that of the native states 62,000,000. The 5,000,000 deaths represent accordingly one death in every 60 of the inhabitants of India. The mortality during the later years is very much greater than in the earlier, the deaths in the last five years and four months reaching over 4,500,000.

The fact that India is an immense country with nearly 300,000,000 inhabitants has often been considered as minimising the gravity of the situation which 5,000,000 of deaths would otherwise represent, and the argument is employed that in such a large country it is impossible to deal with the disease. 1,000,000 deaths a year in a population of 300,000,000 is viewed only as 1 death in 300 of the inhabitants and from that point appears not to have much influence on the vast population. It is once more the fallacy of averages. There is the old story of the man who, assured that the average depth of a river was four feet, endeavoured to cross it and was drowned. He had not reckoned that it might be shallow in some parts and deep in others. Plague is not epidemic over the whole of India. But, even if it were, and admitting that India, including Burma, is greater by 12,000 square miles than the whole of Europe, excluding

[1] Lecture I. was published in THE LANCET of June 29th, 1907, p 1757.

Russia, Poland, and Finland, most people will allow the mortality is serious. 5,000,000 deaths from plague in Europe would be considered on this side of the Red Sea appalling in whatever way it was distributed. And if it happened that many of the countries in Europe were more or less free from plague and that the disease concentrated itself on three or four countries, such as France, Italy, Austria, and Great Britain and Ireland, causing in these nearly 4,500,000 deaths out of the 5,000,000, the mortality would be viewed as a catastrophe of the first magnitude. But if in addition to the loss of the 4,500,000 of inhabitants there were, owing to the recurrence of the disease, a prospect of several more millions being destroyed in those places already attacked, and that there was the further danger as the pandemic developed of the other countries—such as Germany, Holland, Spain, Greece, and Turkey—being attacked in the same way, then the situation of Europe would be similar to that of India to-day. This will serve to give some conception of the tragedy which is going on in India at the present time and of the future perils of that unhappy country. It is a misconception, fraught with the greatest danger, to suppose that in India the plague is only causing a death-rate of 3 per 1000, as was stated in the House of Commons during the debate on the Indian Budget. The figures giving the total number of deaths in the different provinces of India since September, 1896, exhibit a very different degree of incidence and severity in each. The Madras Presidency has escaped with a comparatively small number of deaths; so have most of the other provinces. Four provinces have hitherto borne the brunt of the epidemic in India out of the 15 presidencies, provinces, and States into which India is divided. These are the Bengal Presidency, with a little over 500,000 deaths; the Bombay Presidency, with a little over 1,500,000 deaths; the United Provinces, with nearly 1,000,000 deaths; and the Punjab, with over 1,750,000 deaths.

The annual returns for these provinces are approximately represented in the following figures:—

Year.	Bombay and Sindh, population 22,000,000.	Bengal, population 74,000,000.	United Provinces, population 47,000,000.	Punjab, population 25,000,000.
September, 1896, to end of 1897	57,000	—	80	179
1898	104,000	166	116	1,800
1899	117,000	3,000	6	250
1900	38,000	37,000	116	500
1901	158,000	78,000	9,000	18,000
1902	217,000	32,000	43,000	222,000
1903	340,500	65,000	80,000	210,000
1904	281,000	75,000	179,000	402,000
1905	96,000	126,000	383,000	389,000
1906	71,000	50,000	57,000	98,000
To May 11th, 1907...	52,000	50,000	223,000	432,000

THE EPIDEMIC IN THE PUNJAB.

The province of the Punjab which has lost nearly 1,750,000 of its inhabitants is in size less than one-twelfth the total area of India and it contains less than one-eleventh part of its population. It is slightly larger in area than Great Britain but is smaller than Great Britain and Ireland. Its population, including the Native States, is 25,000,000 without the Native States 20,000,000, against the 43,000,000 of Great Britain and Ireland, so it is not a large province, and the loss of 1,750,000 out of 25,000,000 can only be viewed as an appalling disaster. If plague had destroyed 3,000,000 of the inhabitants of Great Britain and Ireland in ten years it would have represented proportionately what the Punjab has lost during that time with its smaller population. The plague began very slowly in the Punjab and took six years before causing 250,000 deaths. There were 179 deaths in 1897, 1871 in 1898, 253 in 1899, 525 in 1900, then, as reported by the Sanitary Commissioner for the Province, all restrictions were removed and a new policy was introduced; in 1901 there were 18,877 deaths and in 1902, 222,533 deaths. The great mortality has been during the past four and a half years and the greatest during 1907, when over 500,000 deaths occurred during the first five months, which is the epidemic season. 800,000 deaths from plague occurring in Great Britain and Ireland in five months would represent the intensity of the epidemic in the Punjab during the early months of this year. There is no comparison between 800,000 deaths and 54,000, which was the largest epidemic of cholera in England in 1854–55 and which was considered to be appalling in this country. During the week ending May 11th, when the climax of the present year's epidemic in the Punjab was reached, there were 60,000 deaths from plague in that province, which in the British Isles would be represented by 100,000 deaths in one week in an epidemic of the same intensity. The condition of affairs in this country with 100,000 deaths from plague taking place in one week in the British Isles as the climax of an epidemic which in the course of five months had destroyed 800,000 of its people would be similar to that now existing in the Punjab at the present time. The state of mind of the rest of the inhabitants of Great Britain and Ireland under such a catastrophe coming on the top of a devastation which had previously destroyed over 2,000,000 would not be one of calmness and contentment. In the first 12 weeks of the year there were 145,000 deaths from plague in the Punjab; in the next six weeks 286,700 deaths. During these six weeks the plague deaths were as follows:—

Week ending April 6th	... ...	34,651 deaths.
,, ,, ,, 13th	... ...	39,084 ,,
,, ,, ,, 20th	... ...	47,047 ,,
,, ,, ,, 27th	... ...	54,204 ,,
,, ,, May 4th	... ...	51,305 ,,
,, ,, ,, 11th	... ...	60,400 ,,

These facts will dispel the view that the plague is a small thing in India scattered over a vast continent. The effect in the Punjab may be gathered from the following extract from the *Times of India* of June 1st, 1907:—

> A picture of some of the results of the terrible epidemic in the Punjab is given by the "Statesman's" Simla correspondent. To dismiss this epidemic (he writes) with the statement that the people of the Punjab have been dying from it for some time past at the rate of 50,000 a week gives but a faint idea of the deserted villages, the crops rotting upon the ground over wide areas for lack of men to reap them, and the breaking up of homes and family life inseparable from such a calamity. The people have learnt to quit their villages and to camp out in the open when the disease appears and the worst is now over for the year, since the hot winds of May invariably reduce the mortality. But the evil has attained such extraordinary magnitude that it is affecting the whole outlook of the people. In Simla carpenters have become difficult to procure, because the Jullundur district, where most of them lived, has suffered so terribly. The plague is an undoubted factor, though perhaps not the principal one, in connexion with the much-discussed unrest. It is also becoming important in changing the relations between population and sustenance, since the survivors inherit the property of those who succumb and grow less inclined in consequence to work for themselves.

In another extract from the same paper it is stated that "natives of Rawalpindi who have relations in the plague-infected villages will not go to tend their sick; others have left the corpses or belongings of deceased relatives to the mercy of the village rather than risk plague. Firewood is not obtainable to burn the dead, so timber from the houses is being utilised and many Hindus are burying their dead." This last is against the religious views of the Hindus, but their necessity has brought it about.

The concentration in the Punjab does not mean an equal distribution of the disease over the whole province. The mortality falls with unequal intensity on the divisions and districts into which the province is divided.

Table I. gives the deaths registered in the rural circles of the Punjab with the death-rates of each from 1901 to 1905 inclusive. The statistics are not available for the great epidemic of 1907 or for the lesser one of 1906, but those which are available show the great incidence of plague on certain rural areas. In 1902 the district of Ludhiana was worst affected and had a death-rate from plague of over 70 per 1000. More than a fourth of the deaths in the rural circles occurred in this circle. Umballa came next with 30 per 1000 and Sialkot with 26 per 1000; one-third of the circles were not infected. In 1903 Gujranwala was the worst infected circle and had a death-rate from plague of 65 per 1000; Amritsar and Jullundur came next with a mortality of 30 per 1000 each; seven circles still remained unattacked. In 1904 only one circle remained free from the disease. Shahpur had a death-rate from plague of 74 per 1000 of its inhabitants, Sialkot 48 per 1000, Gurdaspur 46 per 1000, Ludhiana 45 per 1000, Gujrat 41 per 1000, and Jullundur 35 per 1000. In 1905 the recurrence in the rural circles was not quite so severe as in 1904, still Rohtak had a death-rate from plague of 52 per 1000, Gurgaon 40 per 1000, and Ludhiana 34 per 1000. Similar rates are to be noted in the towns of the Punjab. For instance, in 1902 Rupar, a

TABLE SHOWING THE DEATHS REGISTERED FROM PLAGUE IN THE DISTRICTS (RURAL CIRCLES) OF THE PUNJAB FROM 1901 TO 1905; RETURN FROM REPORTS OF THE SANITARY COMMISSIONER FOR THE PUNJAB.

Rural circles.	Population according to census of 1901.	1901.		1902.		1903.		1904.		1905.		Total for five years.
		No. of deaths.	Death-rate.	No. of deaths.	Death-rate.	No. of deaths.	Death-rate.	No. of deaths.	Death-rate.	No. of deaths.	Death-rate.	No. of deaths.
Delhi Division:												
Hissar	693,044	—	—	—	—	229	0·33	1,688	2·44	13,595	19·62	15,512
Rohtak	576,415	—	—	—	—	187	0·32	2,859	4·96	30,336	52·63	33,382
Gurgaon	678,503	—	—	4	0·01	2,754	4·06	5,295	7·95	27,737	40 88	35,890
Delhi	457,658	—	—	—	—	—	—	590	1·29	6,116	13 36	6,706
Karnal	799,607	—	—	184	0·23	552	0·69	1,644	2·06	8,558	10·70	10,938
Umballa	698,479	153	0·22	21,152	30·28	4,537	6·50	17,839	25 54	16,510	23 64	60,191
Simla	21,449	—	—	5	0 23	—	—	5	0·23	—	—	10
Total	*3,925,155*											*162,629*
Jullundur Division:												
Kangra	751,945	—	—	5	0·01	—	—	33	0·04	23	0 03	61
Hoshiarpur	923,773	2,308	2·50	11,684	12·65	17,349	18·78	26,894	29·11	17,506	18·95	75,741
Jullundur	789,950	3,415	4·32	15,765	19 96	23,745	30 06	28,298	35·82	22,383	28 33	93,606
Ludhiana	586,569	427	0 73	41,282	70·38	7,357	12·54	31,522	45 91	20,066	34·21	100,654
Ferozepore	881,750	8	0·01	6,126	6·95	5,584	6·33	12,581	14·27	21,070	23·90	45,369
Total	*3,933,987*											*315,431*
Lahore Division:												
Montgomery	477,936	—	—	1	0·02	207	0·43	262	0·55	989	2·1	1,459
Lahore	906,019	174	0·19	11,071	12·22	21,985	24 27	22,440	24·77	26,897	29 69	82,567
Amritsar	842,818	1	0·001	3,668	4·35	25,593	30·37	20,929	24 83	28,649	33 99	78,840
Gurdaspur	871,990	4,325	4·96	14,100	16·17	5,195	5·96	40,806	46·80	19,260	22·09	83,686
Sialkot	994,914	3,478	3·50	26,707	26·84	13,678	13·75	48,347	48·59	11,497	11·56	103,707
Gujranwala	822,871	1	0·001	3,189	3 88	52,725	65·72	26,299	32·78	19,736	24·60	101,950
Total	*4,916,548*											*452,209*
Rawalpindi Division:												
Gujrat	709,017	—	—	353	0·50	2,535	3·58	29,478	41·58	13,917	19·63	46,283
Shahpur	471,938	—	—	5	0 01	731	1·55	35,381	74·97	4,196	8·90	40,313
Jhelum	565,297	1	0·001	—	—	21	0·04	10,388	21·98	134	0 28	10,544
Rawalpindi	819,219	—	—	—	—	118	0·14	613	1·31	816	1·74	1,547
Attock	—	—	—	—	—	—	—	13	0·03	45	0·10	58
Total	*2,565,471*											*98,745*
Mooltan Division:												
Mianwali	395,033	—	—	—	—	—	—	1	0·003	—	—	1
Jhang	954,602	—	—	136	0·14	2,175	2 28	3,639	3 81	517	1·15	6,467
Lyalpur	—	—	—	—	—	—	—	—	—	731	1 43	731
Mooltan	601,975	—	—	12	0·02	—	—	35	0·06	39	0·08	86
Muzaffargarh ...	393,253	—	—	—	—	—	—	—	—	—	—	—
Dera Ghazi Khan ...	428,705	—	—	—	—	1	0·002	1	0·002	107	0·25	109
Total	*2,773,568*											*7,394*
Total rural circles	*18,114,729*	14,291	0·79	155,449	8·53	187,258	10·35	367,980	20·34	311,430	17 22	*1,036,408*

small town in the Umballa district, had a death-rate of 90 per 1000 of its population from plague. In Jamke, a small town in the Sialkot district, a death-rate of 116 per 1000 from plague was registered.

In 1902 the Sanitary Commissioner reports that in the minor towns of the Ludhiana district the ravages committed were fearful. Raikot and Machiwara were almost decimated. Jagraon lost 11 per cent. of its population and Khanna no less than 14 per cent. In 22 villages the death-rate from plague ranged from 20 to 40 per cent. of the population. These death-rates, or depopulation of villages, are similar to those which are recorded as having occurred in some of the villages of the Bombay Presidency. There some of the villages lost 33 per cent. of their inhabitants. As is always the case in plague, some places escape lightly in one year while others are almost depopulated.

Since 1903 special reports on plague in the Punjab have been discontinued and in that year the administration of plague was handed over to the Inspector-General of Civil Hospitals, an officer whose duties in ordinary times are always of an onerous character and who could have no time to devote to this extra work. Owing to these changes the information is henceforth scanty. In 1904, however, there can be gleaned from the few remarks made by the Sanitary Commissioner, when treating of the vital statistics of the province, the havoc which the plague caused in some localities. Thus he says: "As an instance of the fearful increase in the mortality caused by plague, it may be noted that the death-rate of the district of Shahpur in April when plague was most virulent was *twenty-three times* higher than in August, by which time the disease had entirely disappeared. The total number of deaths in April in that district was 17,889, of which no fewer than 17,012 were ascribed to plague, as against only 781 in August, including one death from plague. The death-rate for Shahpur for April was *415 per mille per annum*." With this rate in the district

of Shahpur as a whole, it is safe to say that similar rates of 20 and 40 per cent. occurred in some of the villages as were recorded two years previously in the villages of Ludhiana. There was in 1904 an abnormal increase in the total urban death-rate which the Sanitary Commissioner states was accounted for by plague, and he mentions the high rate of 145 per 1000 in Hodal in the Gurgaon district and of 125 per 1000 in Miani in the Shahpur district, whose death-rate from plague was 100 per 1000 in each case.

If the totals for the five years in the rural circles be taken it will be seen that the Ludhiana district lost 100,000 of its inhabitants out of 586,000, or more than 1 in 6. Sialkot lost 103,000 out of 994,000, or nearly 1 out of every 9. Gujranwala lost 101,000, or nearly 1 in 8 of its population. I have not been able to add to these losses in the rural districts those of 1906, which was a comparatively light year, and those of 1907, which has been worse than any of the previous years, but the figures as they stand demonstrate a devastation on an immense scale, and which with the losses of 1906 and 1907, together with what is to come, means a mortality comparable with even that of the Black Death.

Though not able to give the statistics of the rural circles for 1906 and the earlier months of 1907, I am able to give them for the divisions and districts of the Punjab as a whole from the year 1901 to May 11th, 1907. There are five divisions in the British territory of the Punjab Province. These divisions contain a population of 20,000,000. Since 1901 they have lost 1,500,000 of their inhabitants—i.e., more than one-fourteenth of their total population. The Jullundur and Lahore divisions have suffered the most. Jullundur has lost 441,000 of its inhabitants out of 4,260,000—i.e., more than one-tenth; and Lahore has lost 665,000 out of 5,550,000, or nearly one-eighth. In these two divisions the incidence on some of the districts was very heavy; thus the district of Ludhiana has lost 140,000 out of 673,000 of its inhabitants, which is more than one-fifth of its population; another district of Gujranwala has lost 156,000 of its inhabitants out of 890,000, or slightly less than one-fifth of its population.

There are 29 districts in the Punjab and eight districts have lost less than 1 per cent. of their population, seven districts under 5 per cent. of their population, three districts over 5 and under 10 per cent. of their population, nine districts over 10 and under 15 per cent. of their population, and two districts have lost 17 and 20 per cent. of their population. The map shows the distribution of this mortality and its incidence in percentages of the population. With the districts as a whole giving such figures it is certain, owing to the fact that plague is never evenly distributed, that some of the villages have lost half their population.

THE PREVENTION OF PLAGUE IN INDIA THE MOST IMPORTANT QUESTION FOR INDIA AND ENGLAND AT THE PRESENT TIME.

The disease attacks the able-bodied and the strong, the bread-winners and protectors of the family. It is the sturdy peasants of the Punjab, the sowers and tillers of the soil, the producers, that are dying in such enormous numbers, and if they continue to die the effect, as has been the case in all epidemics, will be a serious disorganisation of the social and economic conditions of the province. Already in 1903 the Lieutenant-Governor of the province recorded that there had been an increase of crime and although the effects of the plague had not been immediately apparent he anticipated that trade, agriculture, and education, recruiting and other interests were bound to suffer. These anticipations and more have happened and the state of the Punjab has become socially and politically a serious cause of anxiety. It has recently been announced in the *Times* that there is a deficit of 18 lacs of rupees in the Punjab revenues of last year and that in many places the crops are standing unreaped because there are no harvesters. The silence of those unharvested fields, together with the figures of mortality, should bring to everyone's imagination a very clear realisation of the awful devastation of the Punjab. Nor are the effects likely to be confined to the Punjab, for there can be no moral and material progress of India as a whole when one of its smaller provinces is being more than decimated, and when there is danger of the disease attacking other provinces with a similar intensity.

It will be recognised from the foregoing facts that the dying millions in India present a problem of the greatest urgency and danger. The plague if left as it has been within recent years to take its own course bids fair in such circumstances to overwhelm not only India but also to be a danger to the world.

MODES OF DISSEMINATION AND CHANNELS OF INFECTION.

Turning to the preventive aspects of plague the question arises, Are the principal modes of dissemination and the channels of infection known? It is now accepted that the importation of plague into a healthy locality can be effected by an infected human being, or an infected rat, or infected clothes. Observations have been so numerous as regards these agencies as to remove all doubt on this point. Dr. E. E. Klein has further shown by some important experiments that infected grain may also be an agent in the importation of the disease. By feeding rats and guinea-pigs with grain which had been contaminated with old cultures of plague, and which was then dried, he was able to cause plague in those animals, so that grain which has been infected with infective material from plague rats or human beings may, on importation into a healthy seaport, give plague to healthy rats on shore which eat the contaminated portions of the grain. The association of corn ships with plague is a very old one. In recent years the association has been ascribed almost wholly to plague rats on board ship which have left the ship and infected healthy rats on shore, but now infected grain must be added as a likely agent.

Once imported, the dissemination of the disease is effected by similar agents as those bringing about importation. Rats, clothes, human agency, and food play their respective parts. It is now almost universally admitted that, except in pneumonic cases, rats are the principal agents in the dissemination of the disease, though personal contact, as in typhoid fever, also plays its part. They bring the infection into houses connected with their subterranean passages. In Hong-Kong one could trace many of the subterranean passages with their infected rats and their connexion with the distribution of the disease in the houses. A systematic bacteriological examination of rats trapped and found dead proved that plague in the rats of the locality preceded plague in man. So constantly did this occur that as soon as plague-infected rats were discovered measures were introduced as in Cape Town but on a more extended and systematic basis, of treating the house or locality as plague infected. In other words, a policy of forestalling plague was adopted. The precedence of rat plague in relation to plague epidemics was observed in Bombay, the Punjab, Calcutta, South Africa, Australia, and Southern China. The value of the Hong-Kong observations lay in the direct evidence obtained by scientific and precise methods not only of the direct relationship which the precedence of rat plague bore to human plague but also of the important rôle which the rat plays in the spread of the disease from house to house and in groups of houses. Similar observations were made by Dr. J. Ashburton Thompson in Sydney, but under different conditions. The Sydney outbreaks are comparatively mild, the mortality being under 40 per cent., and consist mainly of bubonic cases with but few septicæmic cases. Probably the type in Sydney was the same as that met with in Cape Town, where one of the marked features was absence of cerebral symptoms and intestinal disorders, differing in this respect from the type met with in Poona in 1897, but which in 1907 seemed to me to have changed, presenting fewer nervous symptoms. The Hong-Kong outbreaks are exceptionally virulent, the mortality being over 80 and 90 per cent. and with a large percentage of septicæmic cases.

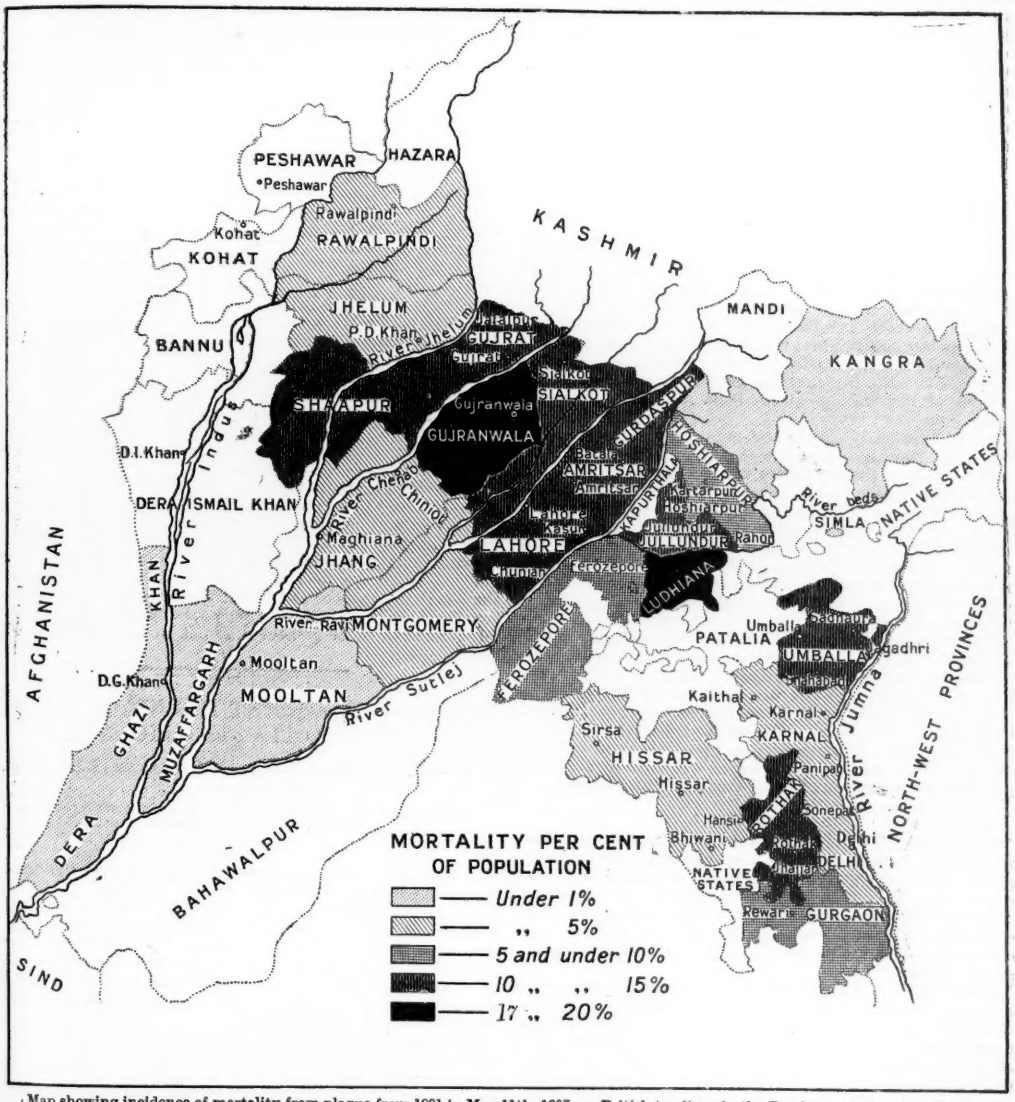
The problem of the dissemination of the disease by rats is not solved by simply proving that rats are infected with plague in a house or locality before human beings, or by the fact that if measures are taken to dispose of the infected rats human plague will not occur, and, *vice versâ*, if no measures are taken plague will attack some of the inmates of the house. The question naturally arises, How is the infection of the rat transferred to man? There are two views and the upholders of each have a tendency to claim that theirs is the only way. The more that is learnt of plague the more it is evident that there is no only way.

THE FLEA THEORY.

Dr. Ashburton Thompson had exceptional opportunities of studying the small outbreaks in Sydney and on that study he came to the conclusion that Simond's theory that the flea on the rat, leaving the rat dead from plague and then biting man, transfers plague from the rat to man, explained the phenomena connected with plague. That theory, of which

Dr. Ashburton Thompson is the champion, has recently received very valuable support in its favour from the very important experiments made by the Indian Plague Commission and which are the outcome of certain researches by Captain W. G. Liston, I.M.S., to whom much credit is due for his excellent work in this direction. These experiments established first the accuracy of Simond's and Gauthier's and Raybaud's experiments as to the power of infected fleas from plague rats causing plague in healthy rats: 61 per cent. of the white rats, which are very susceptible to plague, and Plague-like bacilli were demonstrated in the stomach contents of one out of 85 human fleas dissected and of 23 out of 77 rat fleas. The commission carried the observations a stage further, and by the transference of infected fleas from guinea-pigs started an epidemic of plague among healthy guinea-pigs which was maintained by the introduction of fresh infected fleas.

That the flea is an important agent in spreading plague from rat to rat and in the maintenance of rat epizootic is evident from these experiments. The rat flea, variously



Map showing incidence of mortality from plague from 1901 to May 11th, 1907, on British territory in the Punjab according to districts. Scale 100 miles to the inch.

52 per cent. of the Bombay rats experimented on contracted plague by the transference to healthy rats of fleas from infected rats. Similarly, guinea-pigs allowed to run free in plague houses in many instances attracted a large number of fleas, most of which were rat fleas, and 29 per cent. of the guinea-pigs contracted plague. Animals in cages protected from fleas by a layer of "tanglefoot" did not contract plague, while animals in cages not so protected developed plague to the extent of 24 per cent. Out of 247 fleas caught on the "tanglefoot," 60 per cent. were human, 34 per cent. were rat, and 6 per cent. were cat fleas. named by different observers Pulex cheopis, Pulex murinus, and Pulex pallidus, and commonly found on the Mus rattus, was the active agent in the transfer of the disease from rat to rat and from rat to guinea-pig. To the extent to which the Pulex cheopis is an agent in keeping up the epizootic in the rat, it will account for the epidemiology of plague, but it is not a necessary deduction from this that Pulex cheopis plays the same active part in the transfer of the disease from the rat to man as it does from rat to rat, though it may be credited with an indirect influence in the maintenance of the disease in man owing to its being an active

agent in the dissemination of the disease in rats and possibly in other animals.

There is much in favour of Pulex cheopis playing an active part in the transfer of plague from the rat to man. There can be no doubt that Pulex cheopis, unlike Pulex fasciatus, another common rat flea, bites man. Pulex cheopis is only found occasionally in ordinary circumstances on man. As a rule, it is either the human flea or Pulex canis that is usually found on man. Hilger identified 59 per cent. of over 2000 fleas which he found on man as being Pulex canis, and it may possibly have been this flea which, owing to its wide distribution on rats, dogs, cats, and man, gave rise to the older views that dogs, cats, and fowls from infected houses spread plague even when these animals were unaffected. In certain circumstances Pulex cheopis may be found in numbers on man, such as the instance given by Liston, in which 46 per cent. of the fleas found on the persons of inmates in an infected house proved to be Pulex cheopis.

In Hong-Kong in 1902 I was able to infect two monkeys by placing rats which had died from plague and which were covered with fleas in the same cages as the monkeys but in compartments which prevented any possible contact between rat and monkey but which allowed of a free passage of fleas from rat to monkey. Both monkeys fell ill but recovered. The Indian Plague Commission has in a similar fashion on two occasions succeeded in transferring the plague of the rat to monkeys by the agency of fleas. As it is in the monkey so probably it is the case in man. No direct experiments can be made to prove this, but the accidental infection in man caused by the handling of rats dead from plague and on which Simond's first founded his theory would appear to bear the interpretation given them by the laboratory experiments.

On the other hand, taking the most liberal interpretation of the flea theory based on the experiments mentioned, it is doubtful whether the flea theory will account for more than a certain percentage of the fatal bubonic cases which may vary in different circumstances in different localities. Out of ten experiments with monkeys by the Indian Plague Commission eight failed and in my own experiments the monkeys recovered. Moreover, the fact that infants under one year of age are more or less immune to plague militates against the flea being as important an agent in the causation of human plague as of rat plague. The incidence on infants is very small. This has been shown by Lieutenant-Colonel C. J. Bamber, I.M.S., in the different Punjab epidemics. This immunity is shared with the aged. Fleas probably are not attracted to old people but the same cannot be said with reference to infants who sit, lie on, and crawl about the floor. The food of infants fed as a rule at the breast of the mother differs from that of the adults in that it is pure and not subject to contamination with plague virus and herein probably lies the explanation of the immunity of the infant.

THE FOOD THEORY.

The difference in the type of the disease in Sydney as contrasted with Poona and Hong-Kong has already been mentioned. More post-mortem examinations are made on plague cases in Hong-Kong than in any other part of the world, and it is on the observations there both on man and animals that the theory has been formulated that the ingestion of food contaminated with the plague virus is the cause of septicæmic cases of plague.

Wilm in 1896 found that in 20 per cent. out of 150 necropsies the mucous membrane of the stomach or intestines showed lesions with hæmorrhages, and he was successful in causing plague in fowls by feeding them with plague material and with pure cultures of the plague bacillus. He also succeeded in infecting a pig fed with the spleen of a man who had died from plague. In 1897 the German Commission in Bombay was successful in causing plague in rats, a mongoose, a squirrel, and monkeys by feeding experiments, but failed with mice, guinea-pigs, dogs, and pigs. The Austrian Commission was successful in similar experiments with guinea-pigs, rats, mice, and cats, but failed with dogs, pigeons, hens, and a mongoose.

In 1902 I had the opportunity of seeing with Dr. W. Hunter a large number of necropsies on plague cases in Hong-Kong and we were able to confirm the great frequency with which the intestines are the seat of primary hæmorrhagic lesions and the mesenteric glands swollen and hæmorrhagic. Later Dr. Hunter has given a detailed description of the pathological changes which are observed in the alimentary canal and which are practically present in all the septicæmic cases of plague. The stomach shows well-marked congestions and hæmorrhages; some of the hæmorrhages may occasionally be of the size of a dollar piece. The changes met with in the small intestines are even more severe than those in the stomach. Petechial hæmorrhages and blood extravasations with necroses, forming not infrequently superficial ulcers, are common. Peyer's patches and the solitary follicles are swollen and may be hæmorrhagic, and in some parts inflammatory changes extend through the walls of the intestine. The mesentery is frequently affected by extensive hæmorrhages and the contained lymphatic glands are enlarged and hæmorrhagic. The lymphatic glands standing in relation to the ileum and cæcum are almost always affected. They are frequently double their ordinary size and on section are œdematous, with minute blood extravasations into their parenchyma. With Dr. Hunter and Dr. Matsuda, a Japanese medical man lent to the Government of Hong-Kong by Japan, I was able to carry out a series of feeding experiments which established that poultry, calves, pigs, sheep, rats, and a monkey contracted plague by feeding. We failed to cause plague in dogs by feeding. These observations on men and on animals led me to the conclusion that septicæmic plague is in most cases contracted by the alimentary canal; an additional fact which lends support to this view is the frequency of abrasions and denudations of the alimentary canal in Asiatics. Dr. H. Fraser, who is engaged in a research on the condition of the intestines, showed me in his laboratory at Kuala Lumpur in the Malay States microscopical specimens of the intestines of Chinese and Indians in which he had found over 50 per cent. with abrasions or ulcers. Dr. Hunter has also shown that when premonitory symptoms of plague do manifest themselves the patients frequently suffer from gastric and intestinal disorders with diarrhœa and in these cases examination of the blood shows a septicæmic infection.

More decisive than even the foregoing experiments on animals are those made by Dr. Klein in this country because of the convincing histological work which he has associated with them. He has proved beyond all question of dispute that the plague bacilli taken in contaminated food multiply while the food is in the intestines, enter through the lymph channels or lacteals of the intestines, and invade the blood in swarms. The only qualification is that the microbes shall be so protected as not to be affected by the gastric juice.

THE MOST FREQUENT HERNIA IN CHILDHOOD AND ITS SIGNIFICANCE.[1]

BY EDRED M. CORNER, M.A., M.C. CANTAB., B.SC. LOND., F.R.C.S. ENG.,

SURGEON TO OUT-PATIENTS TO THE CHILDREN'S HOSPITAL, GREAT ORMOND-STREET, AND TO ST. THOMAS'S HOSPITAL.

IN February, 1904, I delivered a lecture at the Children's Hospital, Great Ormond-street, on the Pathology and Treatment of the Herniæ of Children and their Relation to Similar Conditions in the Adult.[2] At the time of its publication, some months after its delivery, I had other work in hand which would assist in the exposition of my view that the majority of herniæ in children were acquired and not congenital. The publication of these observations has been delayed until the present lecture.

If one turns to the work of those who regard these herniæ as being of congenital origin, and therefore often requiring active surgical interference, it is obvious that they take as the standard of their authority the fact that they have performed so many tens or hundreds of operations for the condition; indeed, it is usually stated in the early paragraphs of their papers. This is a very narrow point of view. The problems of the origination of herniæ in children cannot be settled only by observations made at the operating table. Careful notes and records in the out-patient room must come first and the results obtained in this way must be examined in the operating theatre. It will then be found that there is a close relationship between the conditions of the parts noted in the theatre and certain facts in the clinical history

[1] Part of a clinical lecture delivered at St. Thomas's Hospital.
[2] THE LANCET, August 20th, 1904, p. 511.

observed in the out-patient department. By such observations, spread over the last three and a half years, the writer has been able to take a broad survey of the subjects included under the title of this lecture, some results of which are brought to notice in this communication. At a later date the writer hopes to present more of his observations.

With the aid of my clinical assistants, especially Mr. J. Howell Evans and Dr. H. Irving Pinches, a survey was made of the herniæ in the out-patients at Great Ormond-street who attended on my days. To these two gentlemen I owe many thanks for the work which they have performed. When we had completed about 700 observations it was felt that a most important factor had been omitted and that the whole work had to be re-done. The results of this collective investigation of the first series are summed up as follows:—

TABLE I.—*First Series of 700 Observations.*

	Per cent.
Right inguinal herniæ	38·3
Right and left inguinal herniæ	10·8
Right and left inguinal and umbilical herniæ	8·0
Right inguinal and umbilical herniæ	12·0
Left inguinal herniæ	10·6
Left inguinal and umbilical herniæ	2·7
Umbilical herniæ	16·2
Epigastric herniæ	0·9
Femoral, right and left	0·15
Complicated by a ventral hernia between the divaricated recti	14·3
Single herniæ	66·0
Multiple herniæ	34·0

This table includes all the ordinarily recognised herniæ, but no account is taken of the median ventral hernia between the upper parts of the recti abdominis muscles, except that it was noticed casually that 14·3 per cent. were accompanied by this ventral hernia. But as more and more observations were made, the writer, becoming convinced of the first-rate importance of this missing factor, terminated the investigation after 700 observations had been made and commenced a new inquiry on a wider plan executed by a larger number of helpers whose observations were unaffected with the writer's particular opinions on this subject. All concerned in this second investigation were ignorant of the figures and fallacies of the first except myself, so that their observations were unbiassed.

One very remarkable fact was shown by the first investigation—namely, that multiple herniæ were far more frequent in children than they were in adults. Single herniæ were found in 66 per cent.; multiple herniæ in 34 per cent. This is suggestive either of the multiplicity of congenital sacs in one subject or of one factor, common to all, which was the cause for the herniæ present. But it was obvious that this survey was very incomplete because it had omitted to take into consideration, as almost all previous authors have, the hernial protrusions between the divaricated recti. In order to obtain in the second and larger survey results independent of my private views I asked many to help. To them I must acknowledge my grateful thanks: Dr. A. F. Stabb, obstetric physician to St. George's and Queen Charlotte's Hospitals; Mr. G. E. Waugh, one of my surgical colleagues at Great Ormond-street; Mr. H. A. T. Fairbank, another of my surgical colleagues at Great Ormond-street and attached to Charing Cross Hospital; Mr. Howell Evans of Great Ormond-street and the Children's Invalid Aid Association, and Dr. Irving Pinches, my clinical assistants; Mr. Duncan C. L. Fitzwilliams, casualty officer to Great Ormond-street; Mr. S. R. Gibbs, Mr. H. T. Gray, and Dr. R. J. H. Cox of St. Thomas's Hospital; Dr. Alice N. Vowe Johnson of the Lambeth Schools Infirmary; and particularly Mr. M. Cursham Corner, for a large and invaluable series of observations on the newly-born.

Like herniæ in other parts of the body the ventral one between the divaricated recti is not necessarily obvious unless the abdominal muscles are thrown into action, such as is done when obtaining the impulse on coughing in adults. To do this in children requires some little skill and tact, so that the observations are not often made. The most generally applicable method is to place the child on its back on a table or its mother's lap: often it will begin to cry at once when the ventral hernia will become obvious. If this is not so its abdominal muscles may be stimulated by a finger or the handle of a pen. Should this fail, as it often does, the child's head must be supported with one hand, which at first raises it and then allows it to fall sharply backwards two or three inches. Whilst this is being done the observer watches the abdomen for the momentary contraction of the muscles, a carinate projection appearing above the umbilicus if a median ventral hernia is present. In difficult cases other means may be required to demonstrate the protrusion. If care is taken I believe that this hernia will be found more frequently than is indicated by my collective investigation of 2600 cases when it was noted in 24·21 per cent. In fact, one knows that the more carefully the observations are taken the more frequently will a median ventral hernia be found. For instance, two who helped me found the median ventral hernia present in 63 per cent. and 21 per cent. respectively, showing that the results vary with the observer, possibly depending on both the care and the time spent in making them.

In his text-book on Surgery Sir Frederick Treves has stated that the sac, its coverings, and its contents are the three essential parts of a hernia. Recognising that a hernial sac does not always contain any viscera a hernia may be recognised as being formed of a peritoneal protrusion which has separated some of the structures which form the abdominal walls; the formation of the peritoneal sac may or may not be accompanied by some abdominal viscus or viscera. Naturally these protrusions occur at the weaker regions of the abdominal walls: the inguinal, femoral, and umbilical regions. When the recti muscles are divaricated the linea alba is stretched and thinned, allowing the peritoneum and perhaps the omentum and intestine to bulge forward. This bulging constitutes a true hernia having all the essential parts, and as it is found almost exclusively in children it is a peculiar character of their herniæ. Because it was neglected, as it has been by most observers, my first series of observations, which extended over two years and more, was invalidated and the second series was undertaken to remedy the defect. As with all other herniæ, the median ventral hernia between the divaricated recti may be congenital or acquired. Differing from inguinal and femoral herniæ in the sac having no neck and communicating widely with the abdomen, its presence is demonstrable with its first appearance, which need not be so in cases of the others mentioned. The observations of Dr. Stabb and Mr. Cursham Corner have shown that it is a very uncommon, but not unknown, condition to find in the newly born; the former only found it once in 122 observations. Hence there is little evidence in favour of its congenital origin. How, then, can it be acquired? As any given child can only digest and absorb a certain amount of nutriment, which varies with its every mood, any residue, whether an excess of good food or the remains of an indigestible meal, will go bad and ferment in the intestines unless expelled. For details of its fermentation I must refer the reader to my lecture on Some Surgical Results of Improper Feeding, published in the *Clinical Journal*, June 27th, 1906, pp. 171–176. In this place it need only be stated that, amongst other products, gases are formed which distend the intestines, raise the intra-abdominal pressure, and, if not quickly got rid of, will dilate the abdomen, separating the component parts of its walls. To particularise the subject of this lecture, the ventral herniæ between the upper parts of the divaricated recti appear for two reasons: first, as the direct result of the increased intra-abdominal pressure; and, secondly, as the indirect result of the continuance of the raised pressure upon the growth of the tissues of the linea alba.

The incidence of this ventral hernia at the different ages of life is of great interest. I am indebted to Mr. Cursham Corner for his observations in the early stages of life. He remarked that, on the average, the umbilical cord separated on the fifth day, when there was invariably some bulging of the umbilical cicatrix which lasted until the eighth day, when the scar became firm. The size of the bulging was dependent upon the length of cord left proximal to the ligature. He made 201 observations on children between birth and one year of age and found a median ventral hernia between the divaricated recti in 18·5 per cent., being more frequent amongst older infants. At Queen Charlotte's Hospital Dr. Stabb only found one case (in an infant one day old) of bulging between divaricated recti amongst 122 infants varying from one day to 39 days old. Amongst other observers at Great Ormond-street bulging between divaricated recti was found in 34 per cent. in infants under six months of age and in 58 per cent. between that and one year. These figures may be arranged as follows:—

	Per cent.
Queen Charlotte's Hospital (1–39 days)	0·8
East End Mothers' Home (1–365 days)	18·5
Great Ormond-street (under 6 months)	34·0
Great Ormond-street (6–12 months)	58·0

TABLE II.—*Incidence of a Median Ventral Hernia between the Divaricated Recti at Different Ages.*

1	30·0 per cent. had ventral herniæ.
2	62·7 ,, ,, ,,
3	50·0 ,, ,, ,,
4	47·8 ,, ,, ,,
5	43·5 ,, ,, ,,
6	40·2 ,, ,, ,,
7	30·9 ,, ,, ,,
8	28·8 ,, ,, ,,
9	17·7 ,, ,, ,,
10	20·0 ,, ,, ,,
11	17·3 ,, ,, ,,
12	11·8 ,, ,, ,,
13 } 14 }	8·7 ,, ,, ,,

This table shows that the frequency of the median ventral hernia increases steadily from birth to attain its maximum in the second year of life, whence it falls steadily until adult life is reached, when it is rarely seen.

Therefore, it would appear that a median ventral hernia between the divaricated recti is an acquired character which becomes spontaneously cured as growth takes place. Its significance in connexion with the formation of inguinal hernia is enormous. If one sees a house on fire and finds one storey alight it is natural to conclude that some incident has occurred which originated the fire. But if one finds two, three, or more storeys alight one concludes that they arose from one common cause and not that there were two, three or more simultaneous fires kindled. Hence, if we find multiple herniæ as in the first table, at least we may suspect that they have a common causation, though there is no proof that they are not all of congenital origin. But when in addition they are combined with a median ventral hernia between the divaricated recti, as in Table III. an acquired character known to be due to the raised intra-abdominal pressure, the probability is greater that they have a common and a similar origin. Thus this form of ventral hernia becomes an indication of extreme etiological importance. In the third table is represented the percentage in which the presence of this ventral hernia was found at the different ages.

TABLE III.—*Second Series of 2600 Observations.*

	Per cent.
Herniæ present in all cases	32·7
Right inguinal hernia	4·2
Right inguinal hernia and median ventral hernia between the divaricated recti	4·7
Right inguinal and umbilical herniæ	0·8
Right inguinal and umbilical herniæ and median ventral hernia through the divaricated recti	2·3
Left inguinal herniæ	1·3
Left inguinal herniæ and median ventral hernia through the divaricated recti	2·1
Left inguinal and umbilical herniæ	0·4
Left inguinal and umbilical herniæ and median ventral through the divaricated recti	0·5
Umbilical herniæ	4·2
Umbilical herniæ and median ventral hernia through the divaricated recti	13·3
Median ventral hernia between the divaricated recti	61·3
Right and left inguinal herniæ	1·0
Right and left inguinal herniæ and median ventral hernia through the divaricated recti	1·4
Right and left inguinal and umbilical herniæ	0·1
Right and left inguinal and umbilical herniæ and median ventral hernia through the divaricated recti	1·5
Epigastric herniæ	0·9

The median ventral hernia was found by itself in 61·3 per cent. of the cases of hernia; and when in combination also, in 87·1 per cent., a very strong indication of the probable origin of a very large number of the concomitant inguinal hernia; and, as the congenital causation of them in certain cases is not disputed, of the composite, not simple, causation of herniæ. This is strikingly brought out by the following figures, which represent the percentage proportions amongst the various herniæ found. In Table V. the herniæ, accompanied by the median ventral hernia between the divaricated recti, are just twice as large as when unaccompanied, a fact which would suggest that pressure herniæ (i.e., acquired) are twice as common as herniæ of congenital origin.

TABLE IV.—*From Second Series.*

	Per cent.
Of all the 2600 cases herniæ were found in	32·7
Median ventral hernia through the divaricated recti (with and without other herniæ)	24·21
Herniæ other than those between the divaricated recti	15·4
Herniæ unaccompanied by one between the divaricated recti	4·62

TABLE V.—*Of the Herniæ Themselves.*

	Per cent.
Herniæ accompanied by a median ventral hernia through the divaricated recti	25·8
Herniæ unaccompanied by a median ventral hernia through the divaricated recti	12·9
A median ventral hernia through divarication of the recti; present alone	61·3
A median ventral hernia through divarication of the recti; alone and with other herniæ	87·1

Every variety of hernia is more common when associated with another between the divaricated recti than when alone or associated with another variety of hernia. There are two main theories of hernia formation: one, ably and vigorously advocated by many surgeons, amongst whom may be mentioned Mr. H. J. Stiles of Edinburgh, Mr. E. W. Scott Carmichael of Edinbugh, Mr. R. W. Murray of Liverpool, Mr. H. S. Clogg of London, and especially by Mr. R. Hamilton Russell of Melbourne who has named it the *saccular* theory, states that herniæ appear on account of the sac being formed during development; the second, I believe first suggested by Mr. W. Arbuthnot Lane in 1897 and amplified by me in 1904, in which it is argued that the majority of herniæ in children arise from the increased intra-abdominal pressure which results from the gas production of intestinal fermentation. On the latter theory the herniæ can be produced in either of two ways or a combination of both: first, the intra-abdominal pressure may protrude the hernia by direct pressure; secondly, and more commonly, the pressure acts indirectly by modifying the growth of the tissues, particularly in the weaker regions, facilitating the development of a hernia by direct pressure. By the indirect action on its growth the raised intra-abdominal pressure destroys the protective valvular action of the inguinal region, after which a hernia is formed. In very young children the valvular action may be rendered incompetent by the mere stretching of the soft growing tissues. Thus, the younger the child the shorter the time required for the development of a hernia. But the mere presence of a hernia in a child shortly after birth does not necessarily indicate its congenital origin; for instance, it is known, even with the tougher tissues of adults, that a hernia may appear in a few hours or days.

To recapitulate, a median ventral hernia between the upper parts of the divaricated recti is manifold the most common and characteristic hernia of childhood. It has never received its full due owing to the fact that surgeons have made more observations in the operating theatre than in the out-patient room and have, with few exceptions, never combined these two sets of observations. This median ventral hernia is almost invariably an acquired character and is directly related to the pressure of gases produced by intestinal fermentation. Any hernia or set of herniæ in any situation are more frequent when accompanied by it than when alone (Tables III. and V.). Hence clinical experience shows that raised intra-abdominal pressure is directly related to the frequency of inguinal herniæ and, it is suggested, probably also to their initiation. It has been further suggested that the true proportion of acquired to congenital herniæ is about 2 to 1 (Table V.).

In the face of the fact that it is nearly impossible to recognise and distinguish the funicular variety of the congenital hernia sac from the acquired sac at an operation and even perhaps at a necropsy, there can be no certain knowledge of the formation of herniæ in children. Therefore I would suggest that by means of the recognition of the presence and significance of the median ventral hernia, its frequency and associations, it is possible to introduce a strong probability into the question, which would seem to indicate that acquired herniæ are more common in children than those due to the presence of a congenital sac. This is not a mere academic question, as the treatment to be adopted must depend largely upon its appreciation.

Harley-street, W.

ON THE TREATMENT OF LUPUS.

BY DR. MED. DREUW, M.D. BERLIN.

(*Translated from the German by* R. CRANSTON LOW, M.B. EDIN., F.R.C.P. EDIN.)

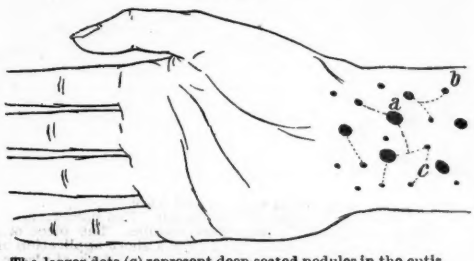
THE methods of treatment in lupus which are in general use at present are the following: (1) physical (Finsen light, Roentgen rays, and radium); (2) chemical (caustics); (3) mechanical (surgical methods); and (4) internally acting substances (cantharidin, tuberculin). There is no single method which can definitely cure every case of lupus so that no recurrence will take place. Therefore, as was specially drawn attention to at the International Dermatological Congress in 1904,[1] the one-sided method of applying the same treatment in all cases of lupus, and in all stages of a given case of lupus, is not to be recommended. But according to the prominent symptom, the surgeon should choose out of the different methods the one which is specially indicated and suited for the object in view. The treatment of lupus by physical means such as the Finsen light or the x rays requires so much time and such costly apparatus that these necessarily are only within the reach of a few specialists. For the majority of practitioners these methods are impossible unless they are associated with some public or private institution. A great number of specialists and almost all practitioners are therefore to-day still dependent on methods which are simpler and cheaper in their application. Every method for the treatment of lupus which can be used by the practitioner himself and which is handy and easy of application is to be heartily welcomed. The practitioner should be in a position to attack on its first onset a disease such as lupus, which causes so much disfigurement.

I introduced over two years ago a method for the treatment of lupus[2] which places the general practitioner in a position to treat it cheaply, easily, and with success. The method is as follows. The lupus patch which is to be treated is frozen by means of ethyl chloride (or by carbonic acid gas[3] if a deeper effect is desired) till it is snow-white. Over this frozen surface crude hydrochloric acid is rubbed thoroughly and with a certain degree of force. According to Unna it is advantageous to saturate this crude hydrochloric acid with chlorine. The acid is applied in the following way. Cotton-wool is wound round one end of a small wooden stick of about the size of a penholder; this is dipped in the crude hydrochloric acid and rubbed on the frozen surface, pressing slightly, till the nodules become of a greyish-white colour (reaction). This greyish-white colour occurs first where nodules are and then in the skin surrounding the nodules. In this way a large surface can be treated at once by a succession of applications of the caustic. If the patch is very large it is best to administer choloroform. The spots are then similarly thoroughly frozen by preference with carbonic acid gas and then by the above-mentioned means the crude hydrochloric acid is energetically rubbed in. This freezing and cauterisation under general anæsthesia is especially suitable (1) in lupus multiplex and lupus exulcerans; (2) in lupus of the mucous membranes, the nasal cavities, the lips, and tuberculous abscesses and fistulæ (cauterise from six to eight times in rapid succession); and (3) where the freezing is not well borne by the patient (e.g., nervous and sensitive patients) or where very energetic cauterisation is necessary—e.g., in tuberculous ulcers, lupus hypertrophicus and verrucosus.

In treating the nasal cavities during the anæsthesia all the tuberculous tissue is scraped away with a sharp spoon and the bleeding is stopped with adrenalin. The posterior nares should be previously plugged. Then the nose is thoroughly cauterised eight or ten times with the wooden sticks dipped in hydrochloric acid. So many applications are necessary because the hydrochloric acid becomes diluted and neutralised by the blood. The crusts which are formed in the nose are removed every two or three days by softening them with oil and douching the nose. The after-treatment of all cauterised lupus areas consists in the application immediately after the cauterisation of a disinfectant and astringent powder which is dusted on with a piece of cotton-wool. I have found eugoform, which is a condensation product of guaiacol and formalin, the best. A bandage is usually unnecessary. Instead of the powder after a few days zinc gelatine or zinc sulphur paste may be applied. One or two days after the surface cauterisation a brown scab forms, which falls off in from two to four weeks. Together with the scab the most superficially lying nodules are cast off, while the deeper ones still remain as such and after four weeks can be recognised by the diascope[4] as brown points. In cases where several nodules are present close to one another from one to four applications of this surface cauterisation are made every four or six weeks. In the course of from three to six weeks a fairly extensive lupus is replaced by a tissue (lupus-fibroma) which is covered with epithelium and in which no nodules or only a few isolated ones remain. When isolated nodules are present they are removed by puncture cauterisation. For this purpose I recommended the use of obliquely pointed glass tubes. The nodule in question is first marked by a spot of ink and then frozen with ethyl chloride. A small-pointed wooden stick is then bored into the nodule and by means of the glass tube two or three drops of crude hydrochloric acid are introduced one after another deeply into the skin opening. For this method the nodules must be at least from 1 to 1·5 centimetres from one another, otherwise the cauterised areas become confluent.

To recapitulate, my lupus treatment consists in thorough surface cauterisation from two to four times every four or six weeks of the previously frozen areas (under general anæsthesia if necessary). This cauterisation is repeated as often as necessary till only a few nodules are present (lupus fibroma). The remaining nodules are cured by puncture cauterisation. If necessary recurrences from remaining foci are treated in the same cheap and convenient way immediately they appear, so that eventually the seat of the disease heals up as completely as is possible in a pathologico-anatomical sense. The following diagrammatic drawing (Fig. 1) may be instructive for the practitioner. It represents a case of non-ulcerated lupus of the forearm which has already been treated and which shows by the diascope perceptible nodules; five of these nodules (darkly marked in the drawing) lie deep in the cutis (cf. illustration), while the remaining ones are close under the epidermis. Every effective chemical and physical treatment destroys the superficial nodules and the superficial connecting bridges first. Only in the later treatment can the deeper tuberculous tissue be affected. In the course of treatment more and more of the tuberculous deposits disappear to be replaced by new connective tissue. Finally, only isolated lupus nodules, which are recognisable by their brown colour under the diascope, are to be seen. These are then treated in any suitable way till they are no longer visible and in their

FIG. 1.



The larger dots (*a*) represent deep-seated nodules in the cutis. The smaller dots are mere superficial nodules (*b*) which lie just under the epidermis. The dotted lines (*c*) represent connecting bands of tuberculous tissue (cf. Fig. 2).

[1] See Transactions of the Fifth International Dermatological Congress in Berlin, 1904. Published by August Hirschwald.

[2] Monatshefte für Pract. Dermatologie, vol. xxxvii., p. 193. Transactions of the Fifth International Dermatological Congress, vol. ii. Berliner Klinische Wochenschrift, 1904, No. 17.

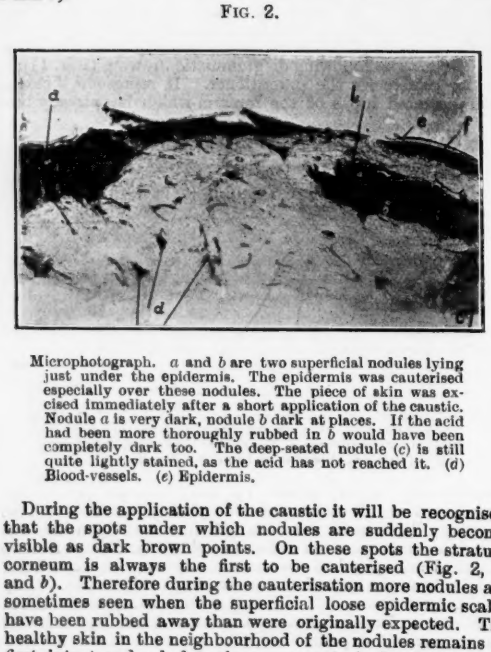
[3] Berliner Klinische Wochenschrift, No. 10, p. 260. "Freezing Treatment of Skin Diseases" by Dr. Max Juliusberg, from the Royal Dermatological University Klinik in Breslau (Director Geh. Med. Rat Professor Neisser).

[4] Diascopy depends on the following facts. If pressure is made with a glass spatula, a glass pleximeter, or a microscope slide on the normal skin it becomes quite pale because the blood is pressed out of the capillaries. In lupus, instead of fibrous and elastic tissue and capillaries, there are collections of cells (lupus nodules) which lie closely packed together and fairly sharply limited in the cutis. These cells appear through the glass as brown areas, whilst the surrounding bloodless areas are light in colour. It is best to use a glass pleximeter and to apply some fatty material to the skin beforehand.

place pure connective tissue is left, as Juliusberg[5] and I[6] have found 12 weeks after the treatment with hydrochloric acid that microscopical examination shows the lupus tissue replaced by scar tissue with no remains of lupus foci (cf. Fig. 3). If after a few or many sittings all nodules have so far disappeared that none are to be seen either with the naked eye or with the diascope, or after injections of tuberculin, or in an excised piece of the tissue, then it is allowable to say that recovery is probable. (Instead of giving tuberculin injections Unna's method of rubbing in tuberculin soap may be followed.) In place of the nodules which had destroyed the connective tissue, elastic tissue, and vessels, new connective tissue appears with the formation of new epidermis, under which there is an absence of papillæ and elastic tissue (see Fig. 3).

At different sittings the operator may either always use the same method (e.g., always Finsen light, hot-air treatment, &c., or always freezing and hydrochloric acid), or a combination of methods, which I consider the best—namely, commencing with ethyl chloride and hydrochloric acid and then using the Finsen light after the surface has healed. This combination I consider very effective. For after-treatment with hydrochloric acid the nodules which remain become fairly accessible to photo-therapy. Of course, the hydrochloric acid treatment must not be so energetic as to produce a keloid. One of the properties ascribed to the effect of light is that it has a selective action in lupus and that it produces deep effects either by an imbibition of serum, an emigration of leucocytes, a direct destruction of tuberculous tissue, or, as is very improbable from bacteriological experiments, a direct destruction of the tubercle bacilli themselves. The treatment by freezing and hydrochloric acid, as recommended by me, has the property both of a selective and a deep action. If an area of skin affected with lupus is frozen and then energetically rubbed with hydrochloric acid the stratum corneum, where the superficial nodules are, is the first portion acted on (Fig. 2, *a* and *b*).

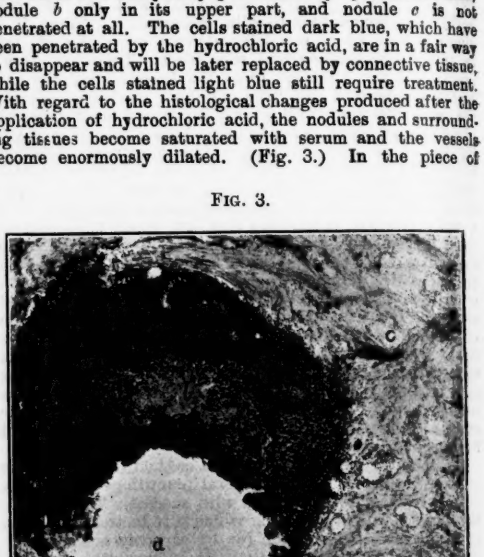
FIG. 2.



Microphotograph. *a* and *b* are two superficial nodules lying just under the epidermis. The epidermis was cauterised especially over these nodules. The piece of skin was excised immediately after a short application of the caustic. Nodule *a* is very dark, nodule *b* dark at places. If the acid had been more thoroughly rubbed in *b* would have been completely dark too. The deep-seated nodule (*c*) is still quite lightly stained, as the acid has not reached it. (*d*) Blood-vessels. (*e*) Epidermis.

During the application of the caustic it will be recognised that the spots under which nodules are suddenly become visible as dark brown points. On these spots the stratum corneum is always the first to be cauterised (Fig. 2, *a* and *b*). Therefore during the cauterisation more nodules are sometimes seen when the superficial loose epidermic scales have been rubbed away than were originally expected. The healthy skin in the neighbourhood of the nodules remains at first intact and only later becomes cauterised or by stronger treatment destroyed. Apart from this elective effect the hydrochloric acid also exercises a certain deep effect, as may be shown by a staining experiment. If a patch of lupus is rubbed with hydrochloric acid the natural result is that wherever there is a gap in the epidermis (Fig. 2, *a* and *b*) the acid penetrates into the cutis. Now, as already mentioned, this gap in the epidermis first occurs where the tissue is less resistant, therefore where lupus tissue lies, and therefore this area becomes penetrated by the acid to a certain depth and destroyed. The depth to which the acid has penetrated may be accurately ascertained by stains treating an excised portion with a strong basic stain such as polychrome methylene-blue solution. It is clear that in the acid-impregnated cells a marked microchemical reaction occurs between the acid tissue and the basic stain. Microscopically, this is shown by the dark blue colouration of the cells into which the acid has penetrated. In Fig. 2 the nodule *a* is completely penetrated by hydrochloric acid, nodule *b* only in its upper part, and nodule *c* is not penetrated at all. The cells stained dark blue, which have been penetrated by the hydrochloric acid, are in a fair way to disappear and will be later replaced by connective tissue, while the cells stained light blue still require treatment. With regard to the histological changes produced after the application of hydrochloric acid, the nodules and surrounding tissues become saturated with serum and the vessels become enormously dilated. (Fig. 3.) In the piece of

FIG. 3.



Puncture-cauterisation. Point of puncture is *a*. The nodule *b* is dark—i.e., saturated with the hydrochloric acid. The vessels *c* are greatly dilated. The connective tissue is infiltrated with serum.

skin excised three nodules, of about the same size as in Fig. 2, were rendered visible by the diascope before treatment. These were frozen and thoroughly cauterised. Four weeks afterwards the scab fell off and new epidermis took its place. In a piece of skin excised 12 weeks after the cauterisation there were no histological remains of the nodules which were present before. The limit of the cauterisation may be recognised (1) by the absence of papillæ between *a* and *b*; and (2) by the absence of elastic fibres between *a* and *b*; while in the uncauterised surroundings they are still present.

The above histological details, notes, and illustrations show that good results can be obtained in lupus by simple and inexpensive means. This is not only the case in recent cases of lupus but also in such as have existed for many years. With regard to the lasting effect of the treatment no exact opinion can as yet be formed, although I have had four cases under observation for two years without any recurrence. But even if there were an occasional recurrence it could be thoroughly and inexpensively treated in the incipient stage. Juliusberg, Rohden, and others have also reported the same good results as I have described. Juliusberg has employed the treatment by freezing and hydrochloric acid in Neisser's clinic and for the freezing has used carbonic acid gas. I only approve of this method when many cases have to be treated, because then the cost is reduced. Carbonic acid produces an effect extending to a considerable depth and with a general anæsthetic it can be used over large areas. After discussing the effect of freezing

[5] Juliusberg: Treatment of Skin Diseases by Freezing, Berliner Klinische Wochenschrift, No. 10, p. 262.
[6] Dreuw: Treatment of Lupus by Hydrochloric Acid, Transactions of the Fifth International Dermatological Congress.

on the normal skin and tuberculous tissue without subsequent cauterisation Juliusberg writes:—

From another point of view I made further experiments, as Dreuw had already reported, with the combination of freezing with ethyl chloride and then application of crude hydrochloric acid. The treatment was the same as that recommended by Dreuw with this exception, that ethyl chloride was replaced by carbonic acid gas. It was thereby possible without general anæsthesia thoroughly to freeze small foci in a few seconds and during the anæsthesia energetically to cauterise them. I usually repeated the whole process two or three times at one sitting. Four or five sittings in two months seemed to me sufficient to cure a fairly deep-seated process. In most cases the pain following the treatment was slight but in a few cases it was very considerable. For after-treatment I used poultices, powders, or pastes. The results appear, so far as can be judged from the relatively short time of observation, to be very favourable. My experience extends over cases of lupus vulgaris, tuberculosis cutis verrucosa, lupus erythematosus, ulcus cruris, primary syphilis, psoriasis, and sycosis vulgaris. The hard sores, which were all ulcerated, healed over in a few days after one application of the treatment by freezing and hydrochloric acid. A specific treatment for all cases has not yet been introduced. I had less success in two cases of psoriasis in which after disappearance of the reaction a fresh outbreak of the disease occurred. Ulcers of the leg, on the contrary, were very favourably influenced. An astonishingly rapid diminution in size and epithelialisation of the sores occurred. In about ten days they were completely healed. In lupus erythematosus, three cases of which I treated, the same favourable result with healing occurred as by simple freezing. The latter method appears to me preferable considering the superficial nature of that disease. The real field for Dreuw's method, if necessary with my modification with carbonic acid gas, is in tuberculous skin affections, which cannot be conveniently treated by Finsen light, Roentgen rays, or radium emanations. I had very good success in lupus vulgaris. As mentioned above, three months after the treatment by the modified method the foci showed on microscopic examination pure scar tissue. (Then follow notes of seven cases of lupus vulgaris, in all of which Juliusberg saw a very favourable influence on the disease.) Putting all my experiences together I am brought to the conclusion that the treatment by freezing has chiefly a destructive and caustic effect. This effect consists in the simple freezing method in a superficial necrosis and in the freezing and cauterisation in a deep necrosis of the tissue. Whether the marked serous transudation and leucocytosis have a good influence on the disease or not I cannot decide. At any rate, it seems to me that the chief use of the freezing method alone is in lupus erythematosus and of Dreuw's method in lupus vulgaris and carcinoma.

Rohden (Bad Lippspringe) describes the same good results in No. 21 of the *Deutsche Medicinalzeitung*, 1905. He says:—

After many fruitless attempts and long treatment with Finsen light and x rays, in my experience of different caustics, besides the general and surgical treatment, I would recommend the ethyl chloride and hydrochloric acid method of Dreuw as surest and quickest. It gives lasting results and stands far above the Finsen light and the Roentgen rays in rapidity and simplicity. It can be carried out by any practitioner. Most cases which are represented as cured by Finsen light are not really cured, if one applies in the diagnosis the diascope or the phaneroscopic light method of Oscar Liebreich. The still unhealed lupus remains visible as yellow masses when the scar is pressed away by the glass.

As is shown by the foregoing the treatment of lupus by freezing and hydrochloric acid gives relatively good results and has the advantage of being very simple and inexpensive. It can therefore be applied by any practitioner. Even long-standing cases give in a relatively short time good cosmetic results. The method can also be applied with advantage in all other ulcerating processes in the skin, such as ulcers of the leg, venereal soft sore, primary syphilis, &c. No definite opinion, of course, can yet be formed as to the permanency of the results obtained because for that purpose years of observation are necessary.

To summarise once more the advantages of the method recommended by me, they are as follows: 1. The method is simple, cheap, rapidly effective, and gives good cosmetic results. 2. It can be carried out at home without hospital treatment, and that is especially important for patients of limited means. 3. Complicated apparatus is not necessary, therefore the method can be applied by any practitioner. 4. The method can be applied in all forms of lupus and in all situations, with the exception perhaps of the eye. Favourable results are obtained by repeated cauterisation, especially in lupus of the nasal cavity. 5. As a preliminary treatment for later Finsen treatment one gains time and gets favourable results.

Hamburg.

VACCINATION FEES.—The Loughborough (Leicestershire) board of guardians have fixed the following fees for public vaccinators: 4*s.* for each successful vaccination performed at the home of a person living in the same parish as the public vaccinator; 6*s.* for each case of successful vaccination performed at the home of a person living in a parish in the public vaccinator's district other than the one in which he resides.

A CASE OF ACUTE LEAD ENCEPHALOPATHY FOLLOWING THE USE OF (?) DIACHYLON PILLS AS AN ABORTIFACIENT.

BY HOWARD F. WARNER, M.B., B.S. LOND.,
HOUSE PHYSICIAN AT THE LONDON HOSPITAL.

THE patient, a well-developed and previously healthy woman, aged 33 years, gave the following history. She was married and had had five children and two miscarriages; she had done nothing to procure these miscarriages and could assign no reason for them. The youngest child was 13 months old, and she had again become pregnant lately. After from six to eight weeks' amenorrhœa, however, she consulted a female friend who gave her three distinct kinds of pills with directions to take one pill of each kind every morning and night. One of the varieties, she was told, was pennyroyal and the nature of the others she does not know, but in view of subsequent events there can be no doubt that one or both of the remaining varieties contained lead in some form, probably diachylon. She took these pills as advised at the rate of six a day for four or five days only without any appreciable effect and then a sudden accident occurred to one of the children; she was very much frightened and ran for a medical man as fast as she could and almost immediately after this she had pains in the back and in the abdomen and began to lose blood copiously. She kept about, however, for a fortnight, although losing continually, and at the end of that time had to go to bed owing to the miscarriage coming on. The miscarriage was attended by a medical man and everything went well. She was kept in bed for four or five weeks owing to anæmia and pains in her back and limbs. All this time she was quite clear mentally so far as can be found out.

The patient was then admitted to the London Hospital and the condition was as follows. The heart and lungs were clear. There was very marked anæmia but no paresis anywhere. Knee-jerks were present and were normal. There was no ankle clonus or Babinski's sign. She complained of pain in the back and limbs and colicky pain in the abdomen, and there was a fine tremor of the hands. The speech was very defective and the memory was much affected. Constipation was a very marked feature, and to clear up the difficulties of the case a *black* line nearly a quarter of an inch wide was found on the gums at the base of the teeth. This line was so extraordinarily wide and black that one hesitated to make the diagnosis of lead poisoning, but in some places, and especially along the margin of the line, the more typical blue character was seen. Mental symptoms rapidly developed after admission and in some respects closely resembled those of delirium tremens. The patient had delusions that people were talking about her and construed objects about the ward, of an inanimate, nature into people and animals. For a time she employed herself busily in trying to catch imaginary fleas and such things, but was never violent. Hallucinations soon came on also and she fancied that she saw animals, chiefly dogs, moving horizontally in front of her. A red man was also supposed to be in constant attendance. She became very restless, especially at night, tried to get out of bed, and would hold long "telephone" conversations in which the sequence of her remarks was quite lucid, but, of course, only her side of the conversation was heard and one was left to conjecture with whom she thought she was conversing. This condition continued for about ten days, during which time she was being vigorously treated with the sulphates of magnesium and sodium and was having trional (20 grains) and veronal (ten grains) at night to promote sleep. Sulphonal (20 grains) was also tried but on the whole the best results were obtained from the former mixture.

Towards the end of this period the patient was quite lucid in the day-time and henceforth her mental condition improved rapidly at night as well as day. Natural sleep was obtained and the bowels at last became free. The very marked anæmia reacted well to the treatment of gradually increasing doses of Blaud's pills and iodide of potassium was now added to her mixture of sulphates to eradicate the remainder of the lead. The line upon the gums diminished very rapidly and in a fortnight had all the appearances of the typical lead line; it became much narrower and definitely blue and dotted in character, and now (28 days after admission) she is up and about with the anæmia rapidly

disappearing and quite clear mentally. There is an interval of about ten days in her memory, coinciding with the time when she was at her worst, of which she remembers nothing. She tells us now that she has never previously had any mental trouble. There were no unconsciousness at any time during the illness and no incontinence.

This case is one of peculiar interest both as showing some of the rarer cerebral symptoms of plumbism and as illustrating the great importance of a routine examination of the gums in all cases, obscure or otherwise, as it was not until this blue line was detected that any suspicion of the real cause of the miscarriage, the continued illness, and the cerebral symptoms arose.

For kind permission to publish this case I am indebted to Dr. Percy Kidd, under whose care the patient was.

A NEW METHOD FOR USING X RAYS.

BY A. HOWARD PIRIE, M.D., CH.B., B.SC. EDIN.,
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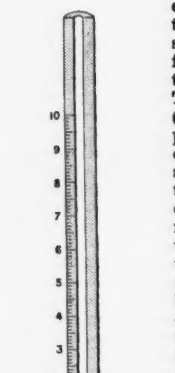
WHEN it is desired to give a standard dose of x rays the following method is used in this country. A Sabouraud's pastille is placed seven and a half centimetres from the source of the x rays and the part to receive the dose is placed seven and a half centimetres from the pastille. The exposure is then made and when the pastille has changed colour to a standard tint the patient has received a standard dose of x rays. The patient is thus placed 15 centimetres from the source of the x rays. It has been shown that the intensity of x rays varies inversely as the square of the distance. So that if we could place the patient at seven and a half centimetres instead of at 15, the time required for a standard dose would, at seven and a half centimetres, be a quarter of the time required at 15 centimetres. The following method is how I have accomplished this.

I made an instrument as follows. I took a one cubic centimetre pipette about a foot long divided into 100 divisions. I melted one end of the pipette and blew a bulb on it of about the size of a pigeon's egg. Two platinum wires were let through the glass of the bulb and sealed into the glass, so that their free ends projected into the interior of the bulb without touching each other. The bulb was then filled with tap water (see illustration). A drop of water is placed in the lumen of the tube opposite the divisions. This drop adheres to the walls by capillary attraction. I shall call this the indicator drop. The instrument is now ready for use. It is placed in series with the x ray tube and the current which flows through the x ray tube flows through the water in the bulb between the platinum wires. This flow of current decomposes the water in the bulb and bubbles of gas are seen to rise from the platinum wire. These bubbles collect in the lumen of the tube and so force the indicator drop to rise. When a child's scalp is placed at 15 centimetres from the source of the x rays while this instrument is in series with the x ray tube, and the indicator drop has risen 11½ divisions, then the scalp has received a standard dose of x rays and epilation will follow. If at the same time a Sabouraud's pastille was used as a control it will be found to have reached the standard tint.



C to coil; X to x ray tube. The drawing is in ½-metre scale.

Now comes the chief use of this instrument. Suppose the above exposure took 12 minutes at 15 centimetres, then at seven and a half centimetres it would have required only three minutes. It is not possible to use Sabouraud's pastilles for epilating at seven and a half centimetres as they are not sufficiently sensitive. By means of my instrument this is possible, and I have found that by placing the scalp at seven and a half centimetres from the source of the x rays and collecting three divisions of gas in the instrument epilation follows.

Results.—I have worked with four different installations and have got the same results with all. I usually require from two to three minutes to produce epilation on a patch of ringworm in a child. For this purpose I place the scalp in contact with the x ray tube (having grounded the positive wire for safety). The head is thus seven centimetres from the bull's-eye of the target—i.e., the point on the anti-cathode from which the x rays originate.

I have worked at various distances of from seven to 15 centimetres between bull's-eye and scalp for producing epilation and have worked out the following

Table of Equivalents.

Distance in centimetres between the bull's-eye of the target and the scalp for epilation	7	8	9	10	11	12	13	14	15
Number of divisions the indicator drop must rise in order to produce epilation	2½	3¼	4¼	5½	6¼	7¼	8½	10	11½

I have produced epilation in three minutes and in 20 minutes, trusting simply to this meter. When treating the whole scalp for ringworm it does not offer any advantage over Sabouraud's method, but for other purposes, such as a single patch of ringworm, it requires only a quarter of the time that Sabouraud's method does. This meter might be called a quantimeter, as it measures the total quantity of electricity passing through an x ray tube. This quantity is continually varying, as a glance at a milliampèremeter will show. For this reason a milliampèremeter cannot be used for estimating the quantity of x rays given out. My quantimeter does not measure the quantity of electricity passing at any given moment, but measures the total quantity that has passed in a given time, and this is a measure of the quantity of x rays given out in that time.

I have described the instrument in its simplest form. There are some simple improvements added to it for practical use. For instance, when the indicator drop has reached the top of the tube it automatically returns to a prearranged spot in the tube and is ready to start again on its upward journey. It can also be arranged that when the drop has mounted ten (or any number of) divisions it makes a contact which automatically cuts off the current and the exposure comes to an end. Messrs. Watson and Sons of Holborn, London, have made a quantimeter for me.

I shall sum up the advantages and disadvantages of the quantimeter. Its *disadvantages* are as follows:—

1. *Heat.*—If the bulb containing the water is fairly large and the platinum wires are kept near each other the rise of temperature is negligible. In this connexion I have calculated out the following: 4·8 divisions of the quantimeter at 50° F. becomes 4 9 divisions at 60° and become five divisions at 70°.

2. *Barometric pressure* has some influence, but with small quantities of gas it may be neglected.

3. *Valve tube.*—It is absolutely essential to use a valve tube or adjustable spark gap as the quantimeter will measure the reverse current through the tube unless this is suppressed. Care must be taken not to measure a current that is not producing x rays such as the current used to soften a tube.

4. All x ray tubes do not give out the same quantity of x rays for the same quantity of current supplied. But how has the current been measured? Usually by the milliampèremeter which varies continually and does not measure the total current but only the current for the moment. I have found practically that any tube having a spark gap of from two to six inches responds correctly to this quantimeter.

Advantages.—The x ray worker can with the aid of this meter accomplish in an hour what formerly took four hours. This is its only advantage and its main object.

It may be used as a milliampèremeter to measure the mean current that has flowed during a certain time; thus, a constant current of 0·9 milliampère flowing for five minutes will liberate 0·05 cubic centimetre of gas; therefore, if five divisions of gas have been collected in the quantimeter in five minutes the mean current for that time must have been 0·9 milliampère. This measurement is for 70° F.

An interesting deduction is made from this quantimeter by collecting the oxygen and hydrogen separately. By so doing it is possible to calculate the percentage of reverse current passing through the x ray tube. If reverse current is passing a certain amount of oxygen will collect in the

hydrogen and *vice versâ*, and by exploding the mixtures and measuring the residual gas the percentage of reverse current can be calculated. By this method I found on using an x ray tube with an equivalent spark-gap of three centimetres and using no valve tube that 15 per cent. of reverse current was passing. And, on the other hand, by using an efficient valve tube I found that all the reverse current had been suppressed.

New Cavendish-street, W.

THE PROPHYLACTIC USE OF ANTITOXIN IN EPIDEMIC DIPHTHERIA.

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EARLY in the present year diphtheria appeared in epidemic form at the Percy House (Brentford Union) Schools, which are under the management of the Poor-law guardians and are situated at Isleworth. There also, upon adjoining sites, are the infirmary and workhouse. The schools are residential, consist of various buildings, and accommodate about 300 children. Communication between the children of both sexes and different ages is in the class-rooms, at meal-times and otherwise, free; the older children walk out in small parties under certain restrictions; and the majority of the children are periodically visited by relatives or friends. Admissions and discharges are frequent, all children admitted or readmitted spending (in batches) a probationary period in isolation before mixing with others or attending classes. The schools are often full: thus in November, 1906, they contained 277 children and by the end of December the number had reached 309. Sick children are treated in the separate infirmary.

Before Christmas the fact had been noted that cases of septic sore-throat and follicular tonsillitis were occurring with a frequency somewhat unusual. During Christmas-time and the few days following the weather was inclement, and necessarily the children were much herded together in crowded, and consequently dusty, day-rooms, the hours spent under these conditions being prolonged by the fact that educational work, which is carried on in a separate building, was suspended. On Sunday, Jan. 6th, 1907, two children who, having sore-throat, had been transferred to the infirmary for observation and treatment were found to be suffering from diphtheria. A rigorous examination of all the school-children revealed suspicious conditions in the throats of a considerable number, and by the end of a week (Jan. 12th) 20 cases of diphtheria had been notified. It was found from the first to be necessary that the throat of every child in the schools should be daily inspected. All children found to be, or suspected of being, infected were isolated. Antitoxin treatment was at once commenced and free use was made of bacteriological examination of swabbings as an aid in diagnosis. The usual means of disinfection, &c., were stringently adopted with a view to limiting the risk of infection. Arrangements were completed whereby the majority of the children affected were transferred from the infirmary to the local (Mogden) isolation hospital and to the isolation hospitals at Acton and Ealing. These methods were steadily persevered in, but nevertheless cases continued to arise, the numbers notified during the weeks ended Jan. 19th, Jan. 26th, Feb. 2nd, and Feb. 9th being respectively 17, 7, 7, and 13, these, with two cases on Feb. 10th, making a total to that date of 66. The persistence of the outbreak and the fact that it affected all classes of children throughout the school proved only too clearly that a widespread infection existed. The board of guardians kindly gave me the opportunity of consultation (on Sunday, Feb. 10th) with Dr. R. Tanner Hewlett, and with his concurrence the use of antitoxin as a prophylactic measure was decided upon. The number of children in the schools was at this time 251. Swabbings from the throats of all were taken and were examined by Mr. E. C. Bousfield, of the Camberwell Research Laboratories. The 16 children from whose throats the specific bacillus or even a suspicious culture had been obtained after cultivation were isolated and were put under treatment with a view to freeing the throats from infection. On either Feb. 11th or 13th antitoxic serum was administered to every child, it being inconvenient to deal with all upon one day. The dosage was so arranged that the 16 children isolated received each 1000 units and all other children, as well as several members of the adult staff, each 500 units irrespectively of age. These quantities were, I believe, somewhat larger than have usually been adopted for protective purposes. It was thought, however, that, having in view the rarity of ill-effects from the use of serum injections as now prepared and administered, the degree of protection to be afforded should not be minimised by any diffidence. The children were still daily examined and carefully watched. A further case of diphtheria arose on Feb. 21st, another on the 27th, and two on March 2nd.

A second antitoxin injection was administered throughout the school on March 6th and 8th, the doses being similar to those previously given. No further cases occurred until April 9th when there was one. On April 12th there was another. Two more appeared on May 10th. With those cases the epidemic ended. Eight cases of diphtheria (all showing definite signs and all proved bacteriologically) arose, therefore, in different parts of the schools in children who had received the antitoxin treatment, two of these occurring more than two months after the second injection.

With regard to the causation of the outbreak there can be no doubt that diphtheria infection was carried into the schools at a time when conditions were favourable for its development. The arrangements under which the admission of children takes place practically preclude the possibility of a case of active diphtheria being admitted, but no swabbings for bacteriological examination are taken from the throats of children upon admission or during the period of probation. I have remarked that the early diagnosis of cases was only attained by daily inspection of all the children's throats. At the very commencement of the epidemic it was noticed that it was exceedingly uncommon for the diphtheritic children to make any complaint whatever or to show any symptoms of illness, so that in the great majority of the cases the presence of disease was first detected in the course of the daily examinations. Constitutional symptoms during the period of "invasion" were almost invariably absent and appeared only if, and when, absorption from the throat lesion had commenced.

The results of the daily inspection were very interesting. Getting, as one did, to "know by sight" many abnormal throats, surprising degrees of variation from week to week in their characteristics were not infrequently found. The presence of enlargement of the tonsils, of tonsils with deep crypts, of chronic pharyngitis, or of adenoid growths, did not appear to increase the susceptibility to diphtheritic infection. Some of such conditions, however, and especially the deep tonsillar crypts, seemed to favour the obstinate harbouring of the Klebs-Löffler and Hoffmann's bacilli and of other organisms. As a means of selecting children as especially liable to, or as being in the "incubation period" of, diphtheria naked-eye inspection proved utterly futile. I myself upon one occasion selected some 20 children as having absolutely healthy throats so far as could be observed; within 24 hours two of these had developed patches of membranous deposit upon the tonsils.

The method of daily inspection for the purpose of selecting cases for further examination was necessarily rapid. The children were easily taught to come up in turn each bringing a spoon, the handle of which was used as a tongue depressor. The spoons were thrown as used into pails in which they were subsequently boiled.

The ages of the 74 children who suffered from diphtheria were as follows: 5 were three years of age, 8 four years, 8 five years, 9 six years, 13 were from seven to nine years, 12 from ten to 12 years, and 19 from 13 to 15 years. The cases were usually treated in the first instance in the infirmary and seven remained there throughout. 20 were transferred to Mogden isolation hospital, 34 to Acton isolation hospital, and 13 to Ealing isolation hospital, where they were under the care of Mr. Herbert R. Power, Mr. D. J. Thomas, and Mr. Lewis D. Brown respectively, to all of whom I am indebted both for the interest which they took in our little patients and for the information with which they have kindly supplied me. The cases proved generally mild, and I attribute their favourable course partly to the fact that few young infants were included but chiefly to early diagnosis and prompt commencement of antitoxin treatment. The throat was free from membrane in many instances in 24 or 36 hours, and Mr. Thomas remarks that "most of the children were up and about at the end of the second week, an event very rare" in the cases admitted under his care.

Complications and sequelæ were uncommon; albuminuria was rare; paralytic symptoms were noted in four cases; in no case was there nasal or laryngeal implication, or was tracheotomy necessary. Two children (both girls aged nine years) died from cardiac dilatation and failure; of these, one was the first case of the series and antitoxin treatment was delayed. Several of the children subsequently developed ulcerations of the tonsils; these occurred late, during convalescence, and gave rise to some anxiety, but they were found not to be associated with the presence of bacilli, and they yielded rapidly on being carefully painted with liquor iodi. The bacillus remained persistently in many of the throats, more especially in those in which enlarged tonsils or adenoid growths were present. I have remarked that the same effect of these conditions was noticed in children who did not develop diphtheria.

Especial interest attaches to the use made of antitoxin. No other instance is known to me in which it has been sought to immunise by its use so large a number of children. The serum used was that supplied by a well-known firm in phials containing each 2000 Ehrlich-Behring units and was not highly concentrated. In most of the prophylactic doses the bulk of fluid was sufficiently small to allow of its being given by means of an ordinary hypodermic syringe; the injections were made under the prepared skin of the back below the angle of the scapula, a fresh needle from a supply kept in spirit being used in each case.

Of definite ill-effects following upon the treatment there were none. One girl showed a general urticarial eruption lasting 36 hours after the first injection, but none after the second. One boy had a spreading erythematous blush around the puncture, arising within a few hours of the second injection; this was accompanied by a slight rise of temperature and passed off in two days. The children generally regarded the treatment as a not unpleasant mild form of excitement. It was thought that a slight depression followed and that their play was for a few hours afterwards less noisy. No other effects whatever were noted. There was, of course, no evidence that the treatment had any effect in hastening the elimination of bacilli from the children's throats; much trouble, in fact, was caused by their tenacity.

It has been shown that attempts were made simultaneously to rid the school of infection by isolating all children with infected throats and to render all the children immune by the administration of antitoxin. Had it been supposed that it was feasible by one examination of a swabbing from every child's throat to differentiate the infected antitoxin might not have been used. It is well known, however, that more than one such examination is necessary before freedom from infection can fairly be assumed and multiple examinations before discharge now form part of the accepted routine in most fever hospitals. There was ample evidence that infection was rife amongst the children in Percy House Schools after Feb. 13th; eight cases of diphtheria actually arose in spite of the protection which was afforded by the treatment adopted and bacteriological proof was abundant that many infected throats were present amongst children other than those who had been isolated. There can, I consider, be no doubt that the arrest of the spread of the epidemic was due to the prophylactic action of antitoxin. Its administration upon so large a scale was not undertaken without serious consideration and it is satisfactory to be able to record that its use appears to have been amply justified by the results attained.

Isleworth.

ON THE USE OF A NEW FLUID FOR THE HÆMATOCYTOMETER.

BY ALEXANDER EDINGTON, M.D. EDIN., D.P.H. EDIN. AND GLASG., F.R.S. EDIN.,

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WHILE the enumeration of the red and white blood corpuscles as an aid to diagnosis of obscure conditions has been more or less in vogue for more than a quarter of a century, its utility, not only as a diagnostic aid but as indicating alterations under treatment, has only attained the present general acceptance within recent years. But even now the practice of making blood counts is by no means universal. An explanation for this may possibly be found in a want of appreciation of the method by some, want of time in the case of others, or in the undeniable fact that some little dexterity and patience are requisite for obtaining trustworthy results. The last reason is perhaps the most salient and one must admit that the use of even so good an instrument as the Thoma Zeiss hæmatocytometer requires dexterity and precision, while accuracy is to some extent impeded by the want of a suitable diluting fluid.

Of all the fluids in use—and there are a considerable number—the best that can be said of them is that they make an approach to being isotonic with normal blood. "A solution containing just such a percentage of salt as suffices to keep the corpuscles unaltered in form and without removal of any of their hæmoglobin is 'isotonic.' For human blood a solution of common salt is isotonic with 0·9, for defibrinated ox blood with 0·6, and about the same for frogs' blood. Very slight differences of external condition will tend to alter the permeability of the blood corpuscles both for hæmoglobin and for other substances" (Schäfer's "Textbook of Physiology").

The normal specific gravity of the blood in a healthy subject is from 1058 to 1062 but in departures from the normal the specific gravity may be much lower and has been found even so low as 1033. With a lower gravity the hæmoglobin falls in an almost constant fashion, so that while with a specific gravity of 1057–60 there may be 85 per cent. to 95 per cent. of hæmoglobin, with a specific gravity of 1033–35 the hæmoglobin will have fallen to 25 per cent. to 30 per cent. When coagulation is prevented the corpuscles of drawn blood very soon sink, leaving the yellow plasma as a supernatant fluid, and it is evident that if hæmoglobin is given up by the corpuscles to the plasma it is very soon eliminated from that fluid, most probably by the kidneys. In various kinds of experimental hæmolyses I have found free hæmoglobin in the plasma antecedent to its appearance in the urine. It is probable, therefore, that changes in the amount of hæmoglobin are in great part due to abnormal permeability of the corpuscles and also to their destruction. In any case, supposing the blood to be examined to be that of an abnormal individual, we may assume that the specific gravity is almost certainly below the normal. If this be the case then the use of a fluid which is isotonic for healthy blood is most certainly improperly constituted for a blood of lower specific gravity. It seemed to me, therefore, of some importance to determine whether one could not prepare a fluid which, without having great regard to the isotonic quality, would be useful for any kind of blood.

Some ten years ago I first used neutral citrate of potassium as a means to maintain large quantities of pathological bloods in a fluid condition so that they could be used for inoculation, and the plan I then adopted has, since that date, found its way into most bacteriological institutions. What, however, struck me as remarkable was the fact that the red blood corpuscles maintained their shapes and characters in a marvellous manner, so that even blood films could be made with blood so prepared. I have therefore prepared the following solution for use with the hæmatocytometer: neutral citrate of sodium, 7·5 grammes; formalin (40 per cent.), 2·0 cubic centimetres; dahlia (Grübler's), 0·03 grammes; chloroform 5 drops; and distilled water, 250 cubic centimetres. In preparing the solution it is better to mix the stain with the water, rubbing down the former with a few drops of the latter first, then to add the citrate and formalin. The solution should be left for a day or two without filtering so as to deposit all the less soluble portions of the dye. The solution is easily made and keeps well when kept in a dark and cool place. If, however, it has not been used for some time it is advisable to filter off a small portion for immediate use. In less than a minute after the diluted blood has been placed on the slide one will find the red corpuscles deposited on the glass so completely that nearly all are in focus, while the refractive index of the corpuscles is so well maintained that they are very easily counted.

In practice I prefer to eject one or two drops from the tube of the hæmatocytometer and thereafter to empty the remainder into a small glass tube which is closed by a well-fitting stopper. By this means the mixed blood and fluid may be sent long distances for examination. Messrs. Thomson, Skinner, and Hamilton, of 38, Sauchiehall-street, Glasgow, now supply such tubes at a nominal cost. The hæmatocytometer tube, after using this solution, is very readily cleaned, a circumstance which may commend itself to many. The rubber tube supplied with the Thoma-Zeiss hæmatocytometer is too short. I prefer using a rubber tube

of twice the length. I have also found a rubber ear syringe (one in which the ball and nozzle are composed of black rubber) to be most useful for washing the glass tubes, since one can affix the compressed ball to the tube and allow it to suck up water or alcohol for cleaning, and thereafter by compressing it the fluid is entirely discharged.

Edinburgh.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

NOTE ON BREAD AS A SOURCE OF URIC ACID.

By ROBERT SAUNDBY, M.D. EDIN., F.R.C.P. LOND.,
PROFESSOR OF MEDICINE AT THE UNIVERSITY OF BIRMINGHAM.

IN Professor Armand Gautier's "Diet and Dietetics," of which there is a not very satisfactory translation published by Messrs. Constable and Co., he draws attention to a fact which is little known in this country—that bread may be a source of uric acid by setting free an excess of phosphoric acid (0·239 gramme of phosphoric acid per 100 grammes of new bread), an acid that does not find any base which can neutralise it.

In the early part of this year a boy, aged nine years, was admitted into the General Hospital, Birmingham, under my care for acute nephritis. There was swelling of his face and legs; his urine was scanty and high coloured and contained blood, albumin, and epithelial and granular casts. His body was covered with numerous scabs and scratches and little raw red spots, and it seemed to me probable that the nephritis was caused by the absorption of some irritating substance which had been applied to his skin, although we were never able to obtain absolute proof of this.

The patient was treated at first by being put to bed in blankets and given imperial drink; his bowels were opened by scammony resin, and boric acid fomentations were applied to the sores on his legs. A week later the whole of his body was anointed daily with the following lotion: Sodium biboras, 3 drachms; oleum olivæ, 4 ounces; aq. rosarum to 8 ounces. The skin soon became perfectly healthy. The blood and casts disappeared from the urine although there was occasionally a haze of albumin, but there was a very copious deposit of uric acid which was first noticed on Feb. 12th, about a month after his admission, although he was on a diet containing only milk, bread, butter, light puddings, cocoa, and fish. The uric acid persisted in spite of large doses of citrate of lithium up to 15 grains at bedtime. The cocoa and fish were stopped on Feb. 20th; on the 22nd he was given urotropin, five grains at bedtime, and this was increased to twice and three times a day without effect. On March 3rd lithia was again tried, 15 grains first at bedtime, then twice a day, then three times a day, and on the 18th five grains of urotropin were added to each dose of the mixture, entirely without effect. From March 19th to April 8th solurol up to four tablets daily was given, also without apparent influence. On April 26th potatoes were substituted for bread, which was removed from his diet, and during the time that he took no bread no uric acid appeared. On the 30th he was allowed two ounces of toast with each meal, with the result that the uric acid reappeared occasionally so that the quantity of toast was reduced to one ounce.

As the boy was in other respects well and had been in the hospital nearly three months we were obliged to let him go and the observation was discontinued, but so far as it went it supports Professor Gautier's opinion. As the influence of bread as a possible cause of the deposit of uric acid is not generally admitted I have thought it worth while to publish this brief note to call attention to it.

Birmingham.

NOTE ON THE SYMPTOMS AND TREATMENT OF HAY FEVER.

By JOSEPH A. W. PEREIRA, M.D. BRUX., L.R.C.P. LOND., M.R.C.S. ENG.,
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HAY fever, or hay asthma, is an extremely distressing disease. It is also a very prevalent one. Unfortunately the treatment is unsatisfactory, so much so that Watson Williams, reviewing it for the *Medical Annual* of 1905 (p. 312), says: "The prevalence of this troublesome complaint demands full trial of any method which is likely to be successful." I believe this failure in treatment is to be explained on the ground that the disease is looked upon too exclusively as a disease of the nose and upper respiratory passages, whilst the affection of the conjunctiva is overlooked. Yet I believe the eye affection is at the root of the disease and precedes by several hours the irritation in the nares. Before mentioning the treatment which I have found most satisfactory I shall briefly enumerate the symptoms in the order in which they occur.

On the first bright warm June day the disease manifests itself by a feeling of itchiness at each inner canthus. On examining the eyes a slight hyperæmia of the bulbar conjunctiva is noticed. This gradually increases and causes photophobia and sneezing when the eyes are turned towards a bright light. There is no secretion from the conjunctiva, although there is a copious flow of tears. The hyperæmia assumes a distinctly conical shape, with the apex touching the cornea, the base being towards the nose. The intense irritation in the eyes forms one of the most distressing features of the disease. As the eye affection grows worse the frequency of sneezing increases until scarcely an hour of the day passes without violent paroxysms. A feeling of intense irritation in the mucous membrane of both anterior and posterior nares occurs and a watery secretion runs from the nose. The sneezing causes intense occipital headache. The disease is now at its worst. Great depression and malaise ensue. The general health is so impaired that the skin breaks out into profuse perspiration after each fit of sneezing. The disease lasts for about three weeks.

The points which I wish to emphasise are these: 1. That the disease begins as a hyperæmia of the conjunctiva and that the other symptoms are mostly reflex. 2. That the eye affection known as pterygium is merely an exaggerated condition of the same affection of the eye made permanent in hot climates "where the air is filled with fine sand or other minute particles."[1] 3. That sufferers from pterygium are invariably great sufferers from hay fever.

The eye being the chief seat of the disease one is not surprised that the profession, led by such popular works as Osler's "Principles and Practice of Medicine" or Whitla's "Dictionary of Treatment," which describe the disease as entirely an affection of the nasal mucous membrane, has gone astray on the question of treatment. The disease lies quite as much within the province of the ophthalmic surgeon. On consulting Swanzy's "Diseases of the Eye" (second edition, p. 83) I find that he recommends dark glasses for protection from the light, weak astringent collyria, &c. The fact is, the eye wants protection, not from the light, but from the dust. Intolerance of light is only secondary to the irritation caused by the dust. This protection is afforded quite as well by colourless glasses as by tinted ones and they are not so unsightly. The colourless glasses should be fitted into frames of the pince-nez variety, for the reason that they best protect the inner canthi, and also for the physiological reason that pinching the root of the nose often stops a sneeze. Protecting the eyes does not cure the disease but all the symptoms are so effectually relieved that hay fever becomes a comparatively trivial affection which scarcely interferes with the routine of life.

Exeter.

A CASE OF THE APPENDIX IN A FEMORAL HERNIA, THE PATIENT ALSO EXHIBITING A CURIOUS CYANOTIC CONDITION.

By F. CARMINOW DOBLE, M.R.C.S. ENG., L.R.C.P. LOND.,
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AN unmarried woman, aged 44 years, was admitted into the Great Northern Central Hospital on May 21st with a double hernia. An operation was performed by Mr. E. C. Stabb on May 22nd. On the right side an oblique incision was made over the lump and a tense swelling was discovered which felt like an enlarged lymphatic gland. This after a little dissection proved to be a hydrocele in the distal end of the femoral sac. The proximal end of the sac was found coming through the lower end of the crural canal. On opening the sac the appendix was found, the tip being very adherent to it. The appendix was removed, without enlarging the opening, by the cuff method, the stump being buried by Lembert sutures.

[1] Swanzy's Handbook of Diseases of the Eye, second edition, p. 109.

The crural canal was closed by stitching Poupart's ligament to the fascia covering the pectineus. The wound was then closed in the usual way. The left hernia proved to be of the ordinary inguinal type and a radical cure was done.

Another curious fact about this case was the woman's colour. She was of a bluish hue; this came on gradually about six years ago and she could give no cause for it. The only medicine which she had taken with any regularity had been in the form of some proprietary liver pills, of which she took two or three a week. (The blue man at Barnum and Bailey's circus derived his colour from taking silver pills.) Her blueness is increased when she is unwell and in cold weather it is especially well marked in her extremities. The heart and lungs were found to be quite normal and there was no clubbing of the finger tips or curving of the nails. A blood count was carried out. The red blood corpuscles were 4,496,000 and the leucocytes 3000 per cubic millimetre respectively; and the hæmoglobin 90 per cent. of the normal. A film was also made but nothing abnormal was found. Dr. Alexander Morison who saw the case said that, in his opinion, the condition was vaso-motor in origin and allied to Raynaud's disease. The patient left the hospital four weeks after the operation.

Mr. Stabb has kindly given me his permission to publish this case.

Medical Societies.

OBSTETRICAL SOCIETY OF LONDON.

Suppuration in an Ovarian Cyst caused by the Bacillus Typhosus.—Exhibition of Specimens.

A MEETING of this society was held on July 3rd, Dr. HERBERT R. SPENCER, the President, being in the chair.

Dr. FRANK E. TAYLOR read a short communication on Suppuration in an Ovarian Cyst caused by the Bacillus Typhosus. The patient, a IV-para, aged 37 years, was admitted into the Chelsea Hospital for Women in April, 1907. She had lived in India for the last 15 years and had enjoyed good health until April, 1906, when she had an attack of typhoid fever. During convalescence a freely movable abdominal tumour was discovered. This gradually increased in size but caused no further signs or symptoms. On opening the abdomen the tumour was found to be a cyst of the left ovary deeply congested or inflamed. There were some adhesions to the omentum only. The cyst was easily removed entire. Recovery was ideal. The tumour was a unilocular cyst of the size of a man's head and held two and a half pints of greenish-yellow pus free from odour. A pure culture of bacillus typhosus was obtained from the pus. The organism was very thoroughly investigated and gave characteristic reactions. It agglutinated the serum of an immunised rabbit in dilutions of 1 in 4000. A Widal's test with the patient's serum gave a positive reaction with 1 in 1000 in one hour. Dr. Taylor considered that infection reached the cyst by way of the blood-stream and that this case demonstrated the pyogenetic properties of the typhoid bacillus. Bacteriologically he classed post-typhoid suppuration under three headings—viz.: (1) a mixed infection, where both pyogenetic cocci and the typhoid bacilli were present; (2) a secondary infection, caused by invasion of pyogenetic cocci into an organ whose resisting power had been lessened as the result of the typhoid fever; and (3) a pure infection, caused by the bacillus typhosus alone, which undoubtedly possessed pyogenetic properties under suitable conditions.—The PRESIDENT asked Dr. Taylor whether Widal's reaction was considered positive proof of the presence of typhoid fever. He knew that physicians did not regard it as such a few years ago. He was surprised to hear that the bacillus typhosus could survive in ovarian fluid for 12 months.—Mr. ALBAN H. G. DORAN referred to his case of perforating ulcers of the ileum from obstruction after ovariotomy, published in the thirtieth volume of the "Transactions of the Pathological Society."—Dr. TAYLOR, in reply, said that the value of Widal's reaction in diagnosis greatly depended upon the technique of its performance, especially with regard to the dilution and time limit employed. The reaction was not absolutely infallible.

The following specimens were shown:—

Dr. TAYLOR: Two Uteri showing a Fundal Ligament after Hysteropexy.

Mr. J. H. TARGETT: Hæmorrhage into the Substance of a Uterine Fibroid.

Miss L. B. ALDRICH-BLAKE: (1) Skeleton of an Extra-uterine Fœtus from a Woman in whom there was no history suggestive of such a Gestation; and (2) Carcinoma of the Cervix in a Uterus, one Horn of which was Undeveloped.

Dr. LEWERS: Two Specimens of Fibroid associated with Bleeding after the Menopause.

The PRESIDENT: A Calcified Fibroid Enucleated for Bleeding 15 years after Oöphorectomy.

Dr. C. J. N. LONGRIDGE: (1) A Baby's Breast; and (2) Diaphragmatic Hernia.

Mrs. M. A. D. SCHARLIEB: A Myxomatous Fibroid weighing 23½ pounds removed by Abdominal Hysterectomy.

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

Exhibition of Cases and Specimens.—The Making of a Shelf below the Unduly Mobile Kidney.—Treatment of General Paralysis and Tabes Dorsalis by Vaccines and Anti-sera.—Bacillus in the Blood of Persons suffering from General Paralysis.

A MEETING of this society was held on July 3rd, Dr. J. O. AFFLECK, the President, being in the chair.

The following specimens were shown:—Dr. W. FORD ROBERTSON and Dr. G. DOUGLAS MCRAE: (1) Rats showing Paresis resulting from action of bacillus paralyticans brevis; and (2) Microscopical Preparations from cases of General Paralysis, illustrating bacillary infection.

Dr. DAWSON F. D. TURNER showed two patients: (1) a case of Rodent Ulcer on the Nose, which had been treated by him with the x rays for three months without effect, but which yielded readily to the radiations of ten milligrammes of radium; and (2) a case of Rodent Ulcer in the Nose of a man, aged 61 years. When first seen the ulcer measured three-quarters of an inch across and had hard raised margins. One application of zinc electrolysis, 30 milli-ampères for ten minutes caused the floor to heal over and a great part of the hard margin to melt away. A second application had since been made and the case had greatly improved. Photographs of the patients before and after treatment were shown.

Dr. A. LOGAN TURNER showed a patient successfully treated by x rays for Lupus of the Larynx. The rays were applied through the skin over the cartilages of the larynx; treatment was carried on during 12 months and the condition was cured. The case occurred in a girl aged 12 years.

Mr. J. W. STRUTHERS showed a boy suffering from Trigeminal Nævus with Epilepsy and Paresis of the Arm and Leg on the side opposite to the nævus. This association of nævus with epilepsy had been observed previously and in certain cases there was a nævoid condition of the dura mater on the side corresponding to the nævus and operation had improved the condition. The dura mater was sensitised by the fifth nerve. The dura mater was exposed in this case but was found to be normal.

Dr. NORMAN WALKER exhibited:—1. A woman suffering from Mixed Infection of Lupus Vulgaris and Specific Disease. The lupus commenced when she was four years of age and spread upwards from the legs. At the age of 19 years it affected the face and mouth. The patient's father died from pulmonary tuberculosis. Finsen light and x rays had been tried on the patient without benefiting her condition. She was admitted to the Royal Infirmary in February of this year. Oleate of mercury was applied to the lupus of the face and neck and at first 15 grains of iodide of potassium were given three times daily and then 30 grains. After the larger doses were commenced the condition improved most markedly. She had also had three injections of tuberculin ($\frac{1}{10\,000}$th milligramme); the negative and positive phases with a rise in the opsonic index were noted. 2. An Epileptic Girl with a Well-marked Rash due to Bromide of Potassium. 3. A Man suffering from Herpes Iris. 4. Acne Keloid.

Mr. H. ALEXIS THOMSON read a paper on the Making of a Shelf below the Unduly Mobile Kidney. He said that the principle of making a shelf below the unduly mobile kidney as an alternative to fixing the organ by means of stitches was introduced some years ago in America and specially advocated by Harris of Chicago. Regarding the causes of undue renal mobility, it must be confessed that, in spite of

the enormous amount of observation expended on their elucidation, there was still a marked absence of agreement on the subject. In answer to the statement that pregnancy and parturition were causal factors, it might be stated that the majority of cases occurred in nulliparous women and the extreme form of moveable kidney was met with chiefly in males. Mr. Thomson did not think that tight-lacing was a great factor in inducing the condition. Various other conditions usually described as causing renal displacement were discussed, and the overwhelming predominance of abnormal mobility on the right side could not be explained on other grounds than the presence of the liver and the difference in the position and attachment of the flexure of the colon on the two sides. The anatomical relations were discussed and it was shown that the transversalis fascia was split into two layers inclosing the kidney. These were united above and on either side but did not unite below. The kidney was anchored in this space with little to interfere with its displacement downwards and inwards. The fascia inclosing the space became in cases of moveable kidney comparable to the sac of a hernia. The influence of violence in producing the condition would not stand criticism in most cases. With regard to treatment it was only in a small proportion of cases in which there were symptoms directly referable to the renal displacement that operative treatment should be considered. While Mr. Thomson had obtained satisfactory results from one or another of the methods employed for fixing the kidney or its capsule by means of sutures, he had come to regard the procedure, which consisted in forming a shelf below the organ, as one to be preferred. The incision commenced at the tip of the twelfth rib and was continued downwards and forwards in the line of the external oblique; the fibres of the three layers of abdominal muscles were separated in the usual manner, the posterior layer of perirenal fascia divided, and the kidney exposed. Having removed the perirenal fat from the lower pole of the kidney, interrupted sutures were passed so as to bring together the parietal peritoneum and anterior layer of the perirenal fascia in front and the posterior layer of the perirenal fascia and lumbar aponeurosis behind. If the peritoneum was opened outside the line of the colon, the passing of the stitches through the peritoneum was more efficiently and more safely carried out.—Mr. J. M. COTTERILL said that up to the present no method of treatment could be considered entirely satisfactory when the patient was only kept on his back for three weeks after operation. No method was effectual so far as the mere stitching went. His own practice was to get rid of the perinephric fat from the outer and upper parts of the kidney and to fix the organ up and in the back part of its sac. In order to do this he stuffed the lower part of the cavity with a large pad of gauze. The essence of success, however, lay in keeping the pelvis well elevated, and if the patient were kept in bed for six weeks no relapses occurred.—Mr. H. J. STILES asked if it would not be wise to combine the two methods of stitching the upper part of the kidney and fixing it by a shelf below. He was far from satisfied that a correct solution of the cause of moveable kidney had been arrived at.—Dr. DAVID WATERSTON and Dr. H. M. CHURCH took part in the discussion.

Dr. FORD ROBERTSON and Dr. MCRAE made a communication on the Treatment of cases of General Paralysis and Tabes Dorsalis by Vaccines and Anti-sera. They stated that the investigations which had led them to employ specific vaccines and anti-sera in the treatment of these diseases had been the subject of several papers, the most recent of which had formed the basis of a discussion at a meeting of the Medico-Psychological Association on May 16th last. They described the distinctive characters of the two types of diphtheroid bacilli that they had used in the preparation of the vaccines and anti-sera. Both micro-organisms showed a considerable degree of virulence to mice, and both had produced in rats fed with cultures a disease resembling general paralysis. They believed that these were not the only species of diphtheroid bacilli that were commonly concerned in the production of the toxæmia of general paralysis and tabes, but that, just as in the case of the pathogenic streptococci, numerous different but closely allied species were capable of exercising a similar pathogenic action. They described the methods which they had employed in vaccinating with killed cultures and the local and general effects produced in eight cases of general paralysis and one of tabes. In most of the cases there was distinct improvement in the patient's physical and mental condition, followed by relapse after several weeks. In one case of general paralysis the improvement had been very striking and had been maintained for a year, when the patient was removed from the asylum. The case of tabes had a special interest in respect of the facts that the bacillus used was one that was abundant in the patient's bladder and that on several occasions the subcutaneous injection of the killed cultures was followed in about 12 hours by a distinct attack of lightning pains. This patient had certainly improved. Dr. Ford Robertson and Dr. McRae explained that the vaccine treatment was temporarily abandoned a year ago when an anti-bacterial serum became ready for use. Their whole time had since been occupied in the preparation of this serum and in the study of its effects. The few observations which they made seemed to show that repeated vaccination with these cultures might prove a useful mode of treatment in cases of general paralysis and tabes. This opinion was supported by the results of the independent observations of O'Brien in America, who had recently reported that he had obtained considerable success with such methods in cases of general paralysis. They considered that three conditions would require to be fulfilled in the carrying out of this treatment—namely, (1) the bacillus ought to be one isolated from the patient; (2) there should be evidence that it is exercising a pathogenic action upon the patient; and (3) the injection should be carried out under the guidance of the leucocyte count or of the opsonic index. They next described their procedure in preparing anti-sera in the sheep. They had now 12 sheep immunised to various strains of virulent diphtheroid organisms isolated from cases of general paralysis and tabes. The serum was given generally in doses of 20 cubic centimetres hypodermically or by mouth. The local effects of hypodermic injections were, as a rule, trivial, but occasionally there was passing erythema and serum urticaria. The immediate general effects were chiefly drowsiness, diaphoresis, and malaise; many of the patients became confused, some were hilariously excited; the speech, gait, and coördination were for a time more impaired and tremors were increased. The temperature reaction was characteristic and, so far as their experience went, it was diagnostic. It consisted in a rise to about 100° F., or a higher level, when the serum was given hypodermically. This rise occurred within 12 hours and was over in 24 hours. Details of several cases were given. Altogether 26 cases of general paralysis and two of tabes had been treated. Out of 12 cases of general paralysis that had been under their own immediate supervision for over a period of three months ten had shown remarkable degrees of improvement. Out of five cases treated indirectly by them for a sufficiently long period to obtain therapeutic results three had improved. In one of the cases of tabes, which had been under treatment for about five months, the severity of the pains had greatly diminished, whilst the duration of the periods of remission had increased. The second case of tabes had been under treatment for only a few weeks, but already results of a similar nature were being obtained. Nine control cases had been subjected to the anti-sera, each on at least three occasions, two of them 11 and ten times respectively. In none of these did any specific reaction occur after mouth administration, and any rise of temperature subsequent to injection could readily be explained by other factors. Several cases of general paralysis had also been subjected to treatment with the serum of normal sheep and also with anti-streptococcic serum, in order to test the specific character of their anti-sera. In no case were these injections followed by any reaction similar to that which ensued upon injection of antiparalytic serum. They formulated the following five conclusions: (1) the anti-sera with which they had been working produced reactions that were diagnostic of general paralysis or tabes after three injections; (2) cases treated with these sera had in most instances shown improvement; (3) a polyvalent anti-serum was likely to be more efficacious than either the mono- or bivalent serum which they had hitherto used; (4) one of the chief obstacles in the way of obtaining a very potent serum had been the loss of virulence in the strains of the organisms used; and (5) there were grounds for believing that an antitoxic serum would be of use in these cases and this they now proposed to make and to test upon patients in conjunction with, or separately from, their anti-bacterial serum.

Microscopical preparations were exhibited showing very abundant diphtheroid bacilli in the brain of a general paralytic, granular bacilli in a nerve cell in the brain of another case from which a culture of a diphtheroid bacillus had been obtained, and several diphtheroid bacilli in a lymphocyte in the centrifuge deposit from the cerebro-spinal fluid of a general paralytic withdrawn during life.

Dr. GEORGE M. ROBERTSON read a communication on the Presence of a Bacillus (Muirhead's Diphtheroid) in the Blood of Persons suffering from General Paralysis and Observations on the Bacillus Paralyticans. The researches, of which this paper was a summary, were inspired by the Morison lectures, delivered in 1906 by Dr. Ford Robertson, pathologist to the Scottish asylums, in which he stated that "a special diphtheroid bacillus," which he named "the bacillus paralyticans, was the specific etiological factor in the production of general paralysis and tabes dorsalis." The researches were carried out under Dr. Robertson's direction with the coöperation of all the members of the medical staff of the asylum. Dr. Robertson pointed out that Dr. Ford Robertson had not given such distinctive cultural or other tests as would clearly identify the bacillus paralyticans, and indeed had left its exact identity "an open question." The objections to this position of uncertainty were stated but the difficulty of identification was overcome in this research by obtaining a culture of the organism. It was found *not* to be the Klebs-Löffler bacillus. Owing to the fact that diphtheroid organisms are frequently present in the alimentary, respiratory, and other mucous tracts of persons who are not suffering from general paralysis their existence in these regions in general paralysis, as Dr. J. W. H. Eyre and Dr. Flashman pointed out, does not necessarily have any special pathogenic significance. Dr. Ford Robertson obtained most of his diphtheroids from these regions and in order to avoid a possible source of error in this research cultures were made from the blood and cerebro-spinal fluid. It was pointed out that cultures made after death were also open to fallacy owing to the liability to terminal invasions by micro-organisms and to the rapid putrefaction of the bodies of persons dying from general paralysis. Such observations should only be secondary or confirmatory. The *modus operandi* of the method for obtaining cultures from the blood was then described and the measures adopted to obtain sterility of the skin of the patient and the instruments employed. 300 cubic centimetres of broth inoculated with 10 cubic centimetres of blood from four healthy controls proved sterile, as did the blood from 25 insane persons. Ten cubic centimetres of the blood of a general paralytic suffering from a severe congestive seizure were withdrawn. Broth was inoculated and incubated for 48 hours. On naked-eye examination it appeared unchanged and sterile, but on examining a hanging-drop specimen organisms were seen. Plating was done in the ordinary way but every attempt proved unsuccessful. As organisms were seen in hanging-drop specimens, and as organisms were stained in a centrifugalised deposit obtained from the broth, and as organisms were seen in blood-smears, owing to the non-success of plating, it was decided to inoculate mice and guinea-pigs. This was done by Dr. T. Shennan at the laboratory of the Royal College of Physicians. After four days a mouse was killed and cultures were made from the spleen and liver and a diphtheroid organism was successfully recovered from both sources. Owing to the difficulty of plating out special methods were employed and successful plate cultures were made without inoculating mice. Diphtheroids were obtained 15 times from the blood and cerebro-spinal fluid of seven general paralytics. These were tested on seven solid and 13 fluid media and proved to be the same organism, there being variability only in the case of milk litmus. This diphtheroid was not the bacillus paralyticans of Dr. Ford Robertson, and the latter organism was never isolated at any time in these researches. Dr. Ford Robertson had altered his original views and now stated that there were two forms of the bacillus paralyticans, a longus and a brevis. These belonged to different groups of diphtheroids, gave different serum reactions, required different sera in treatment, and produced two distinct varieties of general paralysis. He recently supplied the speaker with cultures of his second or brevis form. It was found that this had once been obtained post mortem in the cerebro-spinal fluid associated with a streptothrix in a general paralytic. The streptothrix was, however, obtained in pure culture from the heart blood, and in this case during life the Larbert bacillus (Muirhead's diphtheroid) had been obtained three times. This organism probably played a part in the symptomatology of general paralysis, but it was not asserted to be the cause. It was found in three other cases of doubtful general paralysis and in a fourth possible case another organism—a streptothrix—had been twice found. Finally, with regard to the part which the bacillus paralyticans played in the etiology of general paralysis the results of these researches were practically negative.—In the discussion which followed Dr. T. S. CLOUSTON alluded to the extreme degree of improvement which he had observed in the cases treated by Dr. Ford Robertson and Dr. McRae.—Dr. LEWIS C. BRUCE said that he had examined three of the cases so treated very carefully and two were undoubtedly cases of general paralysis. He had injected two true cases with 20 cubic centimetres of anti-rheumatic serum and they showed no reaction. He also injected 20 cubic centimetres of anti-bacillus coli and 20 cubic centimetres of polyvalent anti-streptococcus serum, and also without reaction. He then injected 20 cubic centimetres of serum obtained from Dr. Ford Robertson, and within 12 hours there was a reaction with a temperature of 99° F. Dr. Bruce had made numerous observations but had never been able to obtain any organisms from the blood of general paralytics.—Dr. DAVID LAWSON (Banchory) and the PRESIDENT made remarks, and the authors replied.

Reviews and Notices of Books.

Green's Encyclopedia and Dictionary of Medicine and Surgery. Vol. I., Aachen to Brain; Vol. II., Bread to Ear. London and Edinburgh: William Green and Sons. 1906. Vol. I., pp. 538; Vol. II., pp. 528.

AN encyclopædia is intended to afford detailed and more or less exhaustive information on the subject or subjects of which it treats, while a dictionary is essentially an alphabetically arranged index of words with brief definitions of their significance or meaning. Adopting some such general explanations of the words encyclopædia and dictionary, the editor, in his introduction, defines an encyclopædia of medicine as "a series of volumes containing extensive information on all the subdivisions of medical and surgical theory and practice," while, in his view, a medical dictionary, in the strict sense of the words, is "a list of definitions of medical and surgical words arranged alphabetically."

In this work an attempt is made to produce at once a dictionary and an encyclopædia—i.e., the general arrangement of the work is alphabetical but the descriptions appended to the words or terms discussed fall into two groups: first, comprehensive descriptive articles or monographs by various authorities, reprinted from "The Encyclopedia Medica" (1899–1904), on medical and surgical subjects of importance; and, secondly, brief descriptions or explanations of all the ordinary words used in connexion with medicine and its attendant sciences. These descriptions are written by the editor.

Judged by the two volumes before us we may say that the attempt appears to be a successful one. The various encyclopædic articles are well written, are conveniently arranged on a general plan, and are admirably adapted for rapid reference. Each begins with a brief summary or *résumé*, then a definition or an explanation of the scope of the subject follows, with a classification and a general discussion, including, where such are necessary, diagnosis, prognosis, and treatment. In regard to the directions for treatment these are concisely stated and definite instructions are given, including details of prescriptions or of measures recommended. In a few cases these articles are illustrated and the figures, diagrams, and plates given are clear and should serve a useful purpose in elucidating the text. The coloured plates of bacteria and of blood corpuscles are also good. In connexion with subjects concerning which much new work has been done since the appearance of "The Encyclopedia Medica" notes are appended in new paragraphs marked off

by brackets or by new articles specially written. The literature lists have been omitted but a few references to important original papers remain.

In regard to the lexicographic part of the work, the choice of words made appears to have been comprehensive. The definitions given are short and succinct but in most cases quite clear and sufficient; sometimes a second definition is given in explanation of the first. A useful addition to the definition of words is that, wherever possible, cross references are given to the various articles where further information is supplied in regard to the subject with which the particular word is employed. Occasionally such references take the place of definition, which, in spite of the editor's claim that they are quite sufficient to indicate the meaning of the word, is irritating and likely to cause waste of time where a definition only is required, as may be seen in the instances quoted by him—viz., Aglaukopsia is not defined—the reader is referred to Colour Vision (Green Blindness); and Agaricus has simply attached to it the cross reference Toxicology (Fungi), in both instances requiring reference to another volume. It is only fair, however, to state that such instances are rare and that in practically all cases the definitions given are sufficient. Although the words are alphabetically arranged there is an index at the end of the volume giving the words dealt with and the pages upon which they are described.

The second volume carries the subject matter of the "Encyclopedia and Dictionary of Medicine" from "Bread" to "Ear," and the features which characterise the first volume are maintained. In addition to the articles which appeared in "The Encyclopedia Medica" new contributions on such recent developments of medical diagnosis and treatment as cryoscopy, cytodiagnosis, and dechlorination have been added; and dermatitis traumatica et venenata in coal-miners is dealt with in a special contribution.

We have on previous occasions deprecated the plan of calling a disease after the observer who first described or minutely investigated it. The accumulation of such names has already become very confusing. Under the heading "Disease" in this volume will be found a list of nearly 100 maladies so distinguished with a brief definition attached to each. This will prove useful for reference and will aid in the recognition of the various morbid conditions. We may add that it is stated in the introduction that it is proposed to issue supplementary volumes as a Quinquennium of Medicine and Surgery after the completion of the present work in order to keep pace with the advance so constantly occurring.

Handbuch der Geburtshülfe (*Handbook of Obstetrics*). In three volumes. Edited by F. VON WINCKEL. Wiesbaden: J. F. Bergmann. 1906. Vol. III., Part I. (pp. 901, price M.22.60, or £1 2*s.* 9*d.*) and Part II. (pp. 1025, price M. 28, or £1 8*s.*).

THE imposing size of these two volumes, of 901 and 1025 pages respectively, gives the reader some idea of the encyclopædic character of this great work. The first part of the third volume deals with the various obstetric operations. A short historical sketch of their development is followed by a discussion of the indications for their performance and directions as to how they should be carried out, which are given very fully indeed. There is also a very extensive bibliography at the commencement of each section, and how complete these sections are may be gathered from the fact that the list of papers appended to the account of the induction of premature labour occupies some 28 pages and that on the classical Cæsarean section 45 pages. When we realise that the whole of the first part of this volume is given up to a consideration of obstetrical operations we are not surprised to find that practically everything that can be said has been included. The article on the Induction of Premature Labour, written by Dr. O. Sarwey, is a most admirable monograph. In a series of tables he brings forward some instructive statistics as to the results of this procedure. Of 2200 cases recorded during the 15 years 1890 to 1904, 32, or 1·4 per cent., of the mothers died, of whom 13, or 0·59 per cent., died from septic infection. Of 1721 children born alive 1380, or 80·2 per cent., left the hospital alive. Of 500 children born alive in 12 different institutions after the induction of premature labour, 406, or 81·2 per cent., were still living at the end of their first year of life. A third table brings out the interesting fact that with respect to 938 women with contracted pelves of 1700 deliveries at full term only 587, or 34·5 per cent., of the children were born alive, while of 1078 premature deliveries in the same mothers 775, or 71·9 per cent., of the children were born alive—a very striking difference in favour of the induction of premature labour in such cases. In the section on the various methods of dilating the cervical canal a full description is given of the different means which can be employed, including an account of Bossi's dilator. We notice, however, that the instrument figured is not the latest and best model of this dilator. Dr. Wyder, who contributes this article, is by no means impressed with the instrument and for general use prefers one or other form of the hydrostatic bag. The chapter dealing with delivery of the fœtus by the natural passages by the same authority is especially noticeable for the very excellent manner in which the application of the forceps is described, 100 pages being devoted to this important operation, its indications and dangers.

The editor, Professor von Winckel, writes the article on Braxton Hicks's method of performing bipolar podalic version. The results of 708 cases in which this operation was undertaken in the treatment of placenta prævia show a maternal mortality of 35, or 4·9 per cent., and a fœtal mortality of 185, or 60·2 per cent. One of the most important questions which the practitioner has from time to time to answer is the decision as to the performance of perforation of the head on a living child. Cases must occur occasionally in which the perforation of the living child is absolutely necessary if the life of the mother is to be preserved, but how infrequently such an operation is required, at any rate in a lying-in hospital, is shown by the experience of Professor Pinard who has not had occasion to perform this operation once in 1800 deliveries. That this was not due to any infrequency of cases of contracted pelvis is shown by the fact that in these 1800 cases symphysiotomy was performed 13 times. It is surprising to find no mention of a sharp decapitating hook in the description of this operation and that nothing is said of the operation of subcutaneous symphysiotomy, undoubtedly the best method of practising this procedure. The indications for vaginal Cæsarean section are discussed at great length by its originator, Dr. Dührssen. We need not say that the article is one of great excellence and full of detail. The arguments for and against this operation are set out at considerable length. The chapters on Porro's operation and on Cæsarean section are contributed by Dr. Schenk and Dr. Kleinhans. Dr. Strassmann has written the chapter on the treatment of accidental hæmorrhage and the volume concludes with an article on the various methods of producing anæsthesia in obstetric cases by Dr. Wyder.

The second part is taken up almost entirely by the account of puerperal fever but there are a few other contributions. The first chapter, by the editor, consists of a review of the history of midwifery in the nineteenth century. Following this Dr. von Braun-Fernwald discusses wounds and injuries of the genital organs due to childbirth, inversion of the uterus, and post-partum hæmorrhage; and Dr. Döderlein contributes the last chapter on puerperal affections of the bladder. In this part, as in the first, the

bibliographies are very complete, that dealing with puerperal fever taking up some 75 pages, although it contains references only to the publications which have appeared since the year 1889. The sections dealing with puerperal fever dwarf all else in this volume. The disease is discussed in all its aspects with the most complete thoroughness, Dr. Walthard describes the general bacteriology and a special account of the gonococcus is given by Dr. Wildbolz. The main part of the description of the disease, including the pathological anatomy and the treatment, is from the pen of Dr. O. von Herff. The author (from the study of a large number of statistics) arrives at the conclusion which has been reached by practically all writers on this subject—namely, that the death-rate from puerperal fever, in spite of all the advances made in the prevention of the various forms of septic diseases in surgery, is at the present time practically stationary. He shows that the lying-in woman is safest when confined in a lying-in hospital and he further proves that the observance of strict antiseptic or aseptic precautions is a sufficient and certain preventive of the disease. We are glad to see the stress which is laid on the use of alcohol in disinfection of the hands, since the adoption of this substance for the purpose is still far from common even in well-conducted lying-in hospitals in this country, and we are convinced that it is of the utmost importance. No less important is the wearing of sterilised rubber gloves, but at the same time if such a practice is to lead to less care being taken in the proper sterilisation of the hands it can only result in disaster and disappointment. Indeed, it is a moot point which are the most dangerous—imperfectly cleansed hands or imperfectly cleansed rubber gloves. It must always be remembered that whilst the general surroundings and the atmosphere, so to speak, of a surgical theatre or of the lying-in ward of a well-conducted hospital are directly conducive to the strict carrying out of antiseptic precautions the surroundings in the majority of confinement cases in private practice are far from encouraging such observances. The treatment of cases of septic infection is very fully considered, although we must confess to some disappointment on reading this portion of the article. It is impossible to come to any other conclusion than that treatment is of little avail, and if prevention fails then the medical attendant is often only too helpless to avert a fatal issue to the case. When we consider the mortality rate of the disease the question as to whether any one of the various methods of treatment advocated really has much effect in diminishing the danger becomes a very difficult one to answer satisfactorily. The teaching laid down as to the uselessness of the administration of alcohol in these cases is directly opposed to that of most writers but is in accordance with the opinion of some medical men as to the harmfulness of alcohol to the body in any conditions, whether it be those of health or disease. Curetting, we are glad to see, is strongly condemned and Dr. von Herff concludes that hysterectomy in these cases is usually of no avail. The question as to whether any good is to be expected from the excision of the pelvic veins in puerperal pyæmia receives the full consideration which it deserves. The opinion expressed, with which we are in accord, is that this operation is as a rule not indicated on account of the difficulties experienced in deciding in what particular case it should be performed and the further difficulty there often is in determining on which side the veins are affected. The removal of the uterus is required only in cases where it contains a sloughing fibroid or where there is definite evidence of an abscess in its walls.

These two volumes are amongst the best of the whole series and are in every respect most complete and helpful. The work constitutes a series of monographs written by eminent authorities and, we imagine, will long remain without any possible rival in this sphere of medicine. It is indispensable for the teacher and should be in every large medical library.

Gall-stones and Diseases of the Bile-ducts. By J. BLAND-SUTTON, F.R.C.S. Eng., Surgeon and Lecturer on Surgery to the Middlesex Hospital. With 47 illustrations. London: James Nisbet and Co., Limited. 1907. Pp. 233. Price 3*s.* 6*d.* net.

THIS book commences with a short anatomical and physiological account of the bile-ducts and the bile and all of this chapter is interesting and most of it is important. Then come sections on infections of the bile-ducts and gall-bladder. A good account is given of gall-stones and of their results. A chapter on cancer of the gall-bladder follows, and then comes a chapter on the effects of some forms of pancreatic disease on the excretory apparatus of the liver. The signs and treatment of cholelithiasis are given at some length and a chapter on the mortality of operations for the relief of gall-stones closes the book. We have described the contents of the volume to show the reader that, though the book is small, it contains a good deal. The style is simple and the addition to each chapter of references to works dealing with the subject enables the reader to look up the matter more fully if he wishes. We are pleased with the book and though there are many controversial points dealt with, about which we are not fully in accord with the author, it should prove of value to senior students and to those in practice. This volume is the first of a new series of books called Modern Clinics. If the later volumes are as good as this the series will have justified its existence.

LIBRARY TABLE.

The Practical Medicine Series. Under the general editorial charge of GUSTAVUS P. HEAD, M.D. Vol. VIII., Materia Medica and Therapeutics, Preventive Medicine, Climatology, Forensic Medicine. Edited by G. F. BUTLER, M.D., H. B. FAVILL, M.D., NORMAN BRIDGE, M.D., D. R. BROWER, M.D., and H. N. MOYER, M.D. Series 1906. Chicago: The Year Book Publishers. Glasgow: G. Gillies and Co. —In this work the collaborators in the department of Materia Medica and Therapeutics state that there has been a widespread demand for more simplification and precision in the armamentarium and that the use of crude galenical preparations is giving way to active principles and remedies of known and unvarying strength. They regret that the contributions on the subject of psycho-therapy, or suggestive therapeutics, have been meagre during the year. They write, "Physicians should inculcate hope in the degree of optimism; their lives should radiate love, hope, cheerfulness, and optimism." In the section on Preventive Medicine the suggestions on the protection of children from contagion are valuable, as are indeed the directions for the conduct of the tuberculous as given by Rochester. The following is a brief summary: 1. The consumptive should kiss no one and no one should kiss the consumptive on the mouth. 2. The consumptive should never lend his handkerchief to anyone or borrow a handkerchief from anyone. 3. The eating and drinking utensils of a consumptive should be thoroughly boiled after he has used them. 4. During the act of coughing he should hold before his mouth a piece of cheese cloth or gauze or other material, which may be burned or boiled. 5. The sputum should be discharged into a piece of cheese cloth or gauze, so folded that the sputum may be turned in and completely covered. Such piece of gauze should be put into a proper receptacle until it is time to take it out and to burn it. 6. The sheets, pillow cases, night-clothes, and underclothing of consumptives should be boiled for half an hour before being washed. Under the heading of Climatology the question as to whether the sanatorium treatment of pulmonary tuberculosis is worth while is answered strongly in the affirmative. Among the

questions considered in the section on Forensic Medicine are: The Bases for Expert Testimony; Insane Heredity and Suicide in Relation to Testamentary Capacity; the Feeble-minded Criminal; the Legal Aspects of Epilepsy; and the Illinois Procedure in Annulment of Marriage for Prior Insanity.

The Seaside and Inland A B C Holiday Guide for the United Kingdom. London: The Wentworth Publishing Company. 1907 Edition. Price 6*d.* net.—This is a useful little book of reference. It contains concise accounts interspersed with photoprints of the chief British holiday resorts, inland and seaside, arranged in alphabetical order. At the end is an index of the golf courses of the United Kingdom and of the angling stations. We note that it is claimed for Hastings that it heads the list for all England as regards its record of sunshine. We may remind our readers of the lists which appeared in THE LANCET on Jan. 26th, 1907 (p. 243), and March 9th, 1907 (p. 676), and we may be excused for doing so as we are sure that many people contemplating their holidays will be glad to study the sunshine records after the gloomy weather which we have experienced lately. It may not be necessary then to take too seriously the announcements of a certain radiant heat and light treatment to which over-frequent attention is called throughout the book.

JOURNALS AND MAGAZINES.

The Asylum News.—The June number of this journal contains a full account of the annual meeting of the Asylum Workers' Association under the presidency of Sir William Collins. In his interesting presidential address he briefly reviewed the ethics of asylum work and the reform which had taken place in the treatment of the insane since the days of Hogarth. Although dealing chiefly with the ethical side of asylum nursing Sir William Collins also gave some sound advice in respect of the intellectual aspect of this special work. The address was excellent both in diction and matter and was in every way eminently suited to the audience. The annual report for 1906 of the Asylum Workers' Association is also published in this number of the *Asylum News* and it shows what active work is being done by this body for the welfare of its members. The Bills before Parliament concerning the registration of nurses have been carefully watched in the interest of asylum nurses, both male and female. During the year 1906 the questions of housing accommodation for married attendants and pensions for asylum workers have been under the consideration of the executive committee and the report indicates that everything is being done to bring these matters to the notice of the Government.

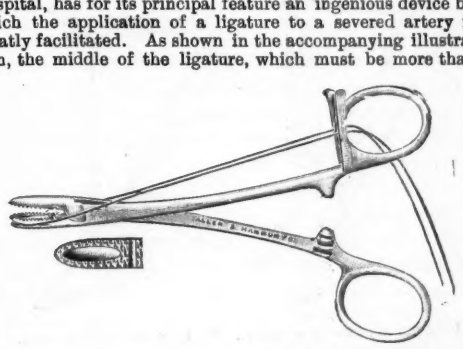
Caledonian Medical Journal.—The first of the original articles in the July number is entitled "The Rôle of the General Practitioner in the Advancement of Medical Science." The author is Dr. James Mackenzie of Burnley who says that there are great questions which are not likely to be solved until the general practitioner takes his share in systematic research. Examples of this kind are to be found in the observation of the progressive development of chronic ailments and in the recognition of that stage of disease when the prospect of successful treatment has passed. Dr. Keith Norman Macdonald relates many reminiscences of the medical curriculum at the University of Edinburgh in the early "fifties." Colonel Kenneth Macleod, I.M.S., contributes a sketch of the Indian medical administration through many stages of development from the year 1600 to the present day. In the editorial paragraphs it is announced that the annual meeting of the Caledonian Medical Society will be held at Bradford on July 25th.

The American Journal of Insanity (April).—Among the several interesting papers in this number of the *American Journal of Insanity*, the following call for special attention. Dr. Solomon C. Fuller's paper on a Study of the Neurofibrils in Dementia Paralytica, Dementia Senilis, Chronic Alcoholism, Cerebral Lues, and Microcephalic Idiocy is an instructive digest on this subject and is accompanied by 13 excellent plates. Dr. C. Lee Carlisle's article on Maniacal Conditions in Young Adults deals with the differential diagnosis between the non-deteriorative and the deteriorative psychoses. He clearly shows the clinical distinctions between the symptom complex known as manic-depressive insanity and the katatonic excitement in dementia præcox. Dr. William Macdonald contributes a paper entitled, "General Paresis or Cerebral Syphilis?" It is written to warn the student not to accept too readily the statement commonly found in text-books that "cerebral syphilis and paretic dementia are diseases which can be readily differentiated from each other." Dr. G. A. Smith supplies an excellent paper on the Application of the Cottage System to the New Hospital. Dr. Smith states that he has had 20 years' experience of the colony system as applied to the care of the insane, and he evidently strongly commends it as giving the most satisfactory results alike with regard to treatment, occupation, and proper classification of the patients. The journal also contains a most interesting letter from a French correspondent on medico-legal expert testimony. He writes that in France experts in criminal matters are named according to the following rules: At the beginning of each judicial year the Courts of Appeal name from the lists proposed by the tribunes of first instance within their jurisdiction doctors of medicine on whom they confer the title of "court experts." In order to be named a candidate must have practised medicine at least five years or hold a diploma for medico-legal studies. Expert physicians named on these conditions by the courts are, in principle, the only ones to whom an expert report can be intrusted. The expert is not allowed to receive any fee for his services if he appears in court as a witness. He is paid from the public Treasury and the payments are according to a scale which is by no means a liberal one. The French expert is never invited to take the part of either the prosecution or the defence, as his fundamental quality is to be impartial. It is evidently recognised in France that the occupation of expert is an important and difficult one and recently the Universities of Paris and Lyons have taken up the special instruction of the medico-legal physician.

New Inventions.

ARTERY FORCEPS AND LIGATURE COMBINED.

THIS forceps, suggested by Dr. Schoemaker of the Hague Hospital, has for its principal feature an ingenious device by which the application of a ligature to a severed artery is greatly facilitated. As shown in the accompanying illustration, the middle of the ligature, which must be more than



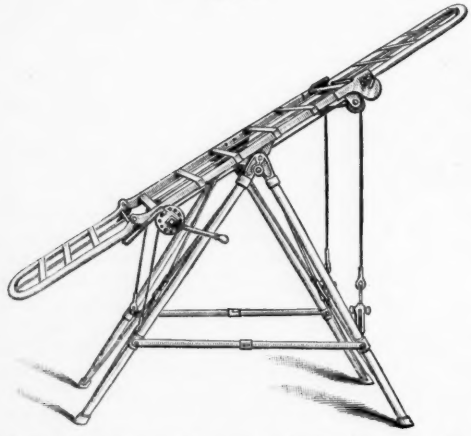
twice as long as the forceps, rests in a notch at the extremity of one of the blades, whilst the free ends after being tied loosely into the first half of an ordinary

knot are temporarily held out of the way behind two flat springs attached to the ring handle. It will be seen from the illustration that any long object caught in the forceps is necessarily surrounded by this loop so that drawing the loop close and tying the second half of the knot secures the artery. The inner aspect of each blade has a shallow recess in the central portion and is also provided with a transverse groove which might serve for holding a needle. In other respects the forceps has a great resemblance to the ordinary English artery forceps named after the late Sir Spencer Wells. It is made in two sizes—five inches long (price 6*s.* 6*d.*) and seven inches long (price 8*s.* 6*d.*). The London agents are Messrs. Allen and Hanburys, Limited, 48, Wigmore-street, W.

A NEW PORTABLE OPERATION TABLE.

IT is not from a wish to add another portable table to the long list of those already in existence that I have devised the one here depicted. My reason for planning this table, and having it made, is that there are, in my opinion, grave defects in all those at present on the market; this one, however, has at least the essential attributes of a good operation table in a portable form

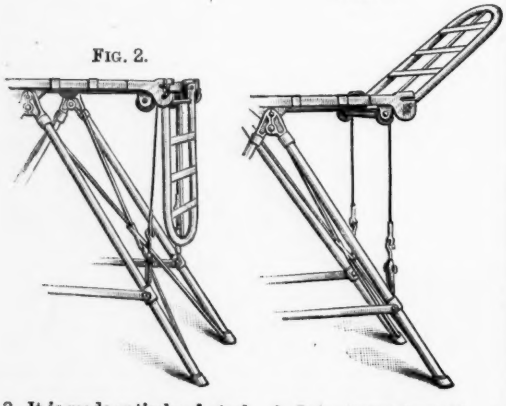
FIG. 1.



and the following points may be referred to. 1. It is light, weighing about 35 pounds (i.e., about the same weight as an ordinary Jordan Lloyd's flat wooden table). 2. When folded, the size in a canvas cover is 40 by 23 by 7½ inches and it can be put up or taken down in a few seconds.

FIG. 3.

FIG. 2.



3. It is made entirely of steel. 4. It is absolutely rigid. 5. Any of the surgical positions can be obtained. The method of obtaining the Trendelenburg position is a new one and very simple. As will be seen from Fig. 1, two thin wire hawsers pass round cylinders underneath the body of the table, and are controlled by the handle at the right hand of the anæsthetist, who can thus turn the table into the Trendelenburg position in a moment. The patient is kept from sliding down by shoulder props or anklets (which I prefer), according to the fancy of the operator. It is important to notice, too, in regard to this position that the table turns on the central axis and is not raised in the middle portion to the detriment of the operator, a fault common to almost all portable tables. The lowering or raising of the end of the table alone, as shown in Figs. 2 and 3, is also accomplished by a new and simple device, which, as with the method of obtaining the Trendelenburg position, does away with the necessity of any rack.

I may add, lastly, that it is the cheapest metal table of the sort on the market. I venture to hope that it will be specially serviceable to gynæcologists, to whom the Trendelenburg position is essential.

Messrs. White and Wright, 93, Renshaw-street, Liverpool, have made the table for me, and I am much indebted to them for having conducted expensive experiments and for having so faithfully carried out my instructions.

W. BLAIR BELL,
Assistant Gynæcological Surgeon, Royal Infirmary, Liverpool.

A NEW TOURNIQUET.

THIS tourniquet is very simple in its construction, consisting of only two parts,—namely, a stout vulcanised india-rubber tube of any desired length and a cylindrical ring to which two hooks are jointed. The tube is passed through the ring and round the injured limb, after which its ends are securely clamped by pulling them into the angle at the bend of the hooks. The tension is easily adjusted and controlled, being regulated from both ends and not from one end only as in many tourniquets. So long as the indiarubber remains in good condition the purpose would be served, but this substance is, of course, liable to deteriorate from a variety of causes. The new tourniquet is made by Messrs. S. Maw, Son & Sons, Aldersgate-street, London, E.C., who have called it the "Securitas." The price is 4*s.* 9*d.*

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

THE annual election of members of the Council was held at the College in Lincoln's Inn Fields on July 4th. There were four vacancies and seven candidates: Mr. H. W. Page, Mr. C. W. Mansell Moullin, and Mr. F. S. Eve were applying for re-election; and Mr. Charles Higgens, Mr. W. Bruce Clarke, Mr. Charters J. Symonds, and Mr. W. D. Spanton were applying for election. The polling commenced at 3 o'clock and was closed at 5 o'clock. The counting of the votes lasted an hour and a quarter and the result was as follows:—

	Number of votes.	Plumpers.
C. J. SYMONDS	452	26
W. BRUCE CLARKE	413	52
C. W. MANSELL MOULLIN	403	6
F. S. EVE	388	3
H. W. PAGE	349	11
W. D. SPANTON	348	34
C. HIGGENS	234	10

The PRESIDENT (Mr. HENRY MORRIS) announced the result and declared that Mr. Mansell Moullin and Mr. Eve were re-elected and that Mr. Symonds and Mr. Bruce Clarke were elected members of the Council.

It was the heaviest poll that has ever been taken. In all 892 votes were received, 873 being received through the post, and of these two were disallowed as the signatures of the voters were not witnessed and three were received after the opening of the poll; one was disallowed also because the voting paper was blank. 14 Fellows voted in person.

Mr. T. Crisp English and Mr. Willmott H. Evans acted as scrutineers.

ON Friday, July 19th, Lady Duckworth-King will open the new electrical department of the Royal Devon and Exeter Hospital presented by Mrs. Sanders in memory of her husband and son, both of whom were formerly Presidents of the hospital.

THE LANCET.

LONDON: SATURDAY, JULY 13, 1907.

Compulsory Notification of Cerebro-spinal Fever in London.

THE London County Council received on June 18th an important report from its public health committee on the notification of cerebro-spinal fever or epidemic cerebro-spinal meningitis. At the Council's initiative notification of this disease has already been made obligatory in London for a period of six months which began on March 12th last. Cerebro-spinal fever, so far as it is related to season, shows a greater prevalence in the early months of the year, and it is now proposed to extend the period of compulsory notification for two additional years in such a way as to cover two possible epidemic periods. This proposal has much to commend it. The experience of recent years shows that in the United Kingdom cerebro-spinal meningitis is not at present to be regarded as a disease which becomes frequently or readily diffused. Here and there in particular localities or households the disease has spread with great rapidity and intensity, in circumstances apparently not unlike those in which typhus fever sometimes shows marked infective ability. Infection from person to person by the meningococcus of Weichselbaum is usually, and probably rightly, suspected to occur in these cases, but we are not yet able to assert that such infection constitutes the principal agency responsible for these specially infective outbreaks. In sporadic cases direct association with previous cases of meningitis has seldom been traced. The part played by intermediate "carrier" cases in the spread of meningitis, like the question of the dependence of the disease on mixed infection, is as yet hardly beyond the stage of speculation. In these circumstances the fact that compulsory notification affords a means of securing the isolation of the patient, the segregation of "contacts," and the disinfection of the dwelling does not constitute the chief reason for this administrative measure. The principal value of notification in London at the present time is that, with coöperation between hospital physicians and medical practitioners on the one hand and medical officers of health and bacteriologists on the other, new facts may be obtained which will throw light on the circumstances in which this highly fatal disease occurs in sporadic form or in which on occasion it becomes intensely infective. This aspect of the question has been realised by the public health committee which recommends that with the continuance of notification in London a small fund should be set aside for investigatory work under the direction of Sir SHIRLEY F. MURPHY and his colleagues in the medical department of the County Council.

Meningitis, both in adults and children, may be connected with a variety of conditions which clinically and etiologically have to be kept apart from "cerebro-spinal fever." The report points out that the term "cerebro-spinal fever" as regards notification to the health authorities is not to be interpreted to include cases of meningitis due to tubercle, syphilis, middle-ear disease, or injury. In regard to so-called "simple" meningitis, and particularly posterior basal meningitis (cervical opisthotonos of infants), the case is different. Dr. A. K. CHALMERS has shown that in Glasgow since attention has been prominently directed by notification to "epidemic" cerebro-spinal disease, many deaths which in ordinary years would have been ascribed to "simple" meningitis or posterior basal meningitis have been registered as due to "cerebro-spinal fever." And from the investigations of Dr. G. F. STILL and others it has for some years been known that the meningococcus of Weichselbaum is frequently discoverable in the cerebro-spinal fluid of cases of posterior basal meningitis. In consequence of the need for better understanding on this and other matters bearing on compulsory notification, the London County Council has taken the prudent step of consulting, and inviting the assistance of, the Royal College of Physicians of London, and a committee which the President, Sir R. DOUGLAS POWELL, convened to consider the question has expressed the following opinions:—

We find clinically that although as regards symptomatology and duration there are some differences which might separate the most marked cases of cerebro-spinal fever (epidemic cerebro-spinal meningitis) and posterior basal meningitis from one another, nevertheless intermediate cases occur in which such differentiation is impracticable.

It cannot (at present) be maintained by experts with absolute certainty that there is any demonstrable difference in the bacteriology of the two diseases. The organism which is commonly associated with each disease is microscopically the same (meningococcus, micrococcus intracellularis, diplococcus intracellularis meningitidis), such variations as may be met with being dependent on minor differences in cultural characters.

It is noteworthy that, so far as has been ascertained at present, both diseases tend to occur during the earlier months of the year, and that, although the occurrence of the disease in both instances is epidemic, in neither has it the characteristics of a spreading malady.

In view of these considerations and on the advice of Sir R. DOUGLAS POWELL'S committee the County Council proposes to take steps to inform medical practitioners in the metropolitan area that for notification purposes the disease at present known as posterior basal meningitis should be included under the term "cerebro-spinal fever." Arrangements are to be made for bacteriological examination of notified cases so far as may be desirable, and the services of Mr. W. M. WANKLYN, assistant medical officer of health, will be made available with a view to the investigation of cases in association with medical practitioners in London should they so desire. The action of the Royal College of Physicians of London in the matter has done much to prepare the way for making satisfactory use of the information which compulsory notification can provide. We are sure that Sir SHIRLEY MURPHY'S department will receive the coöperation which is required for its investigations, not only from metropolitan medical officers of health and medical officers of hospitals, but also from medical practitioners in London who have an opportunity of giving assistance.

Reticence to Patients.

AN unfortunate young man, assistant to a druggist at Altrincham, is reported to have committed suicide a few weeks ago in consequence of having been told by his medical attendant that he was the subject of pulmonary tuberculosis. As one result many of our brethren of the non-medical press, not to speak of their "Constant Readers" and other correspondents of various denominations, have been much exercised in their minds over the question whether it is right or desirable for a medical practitioner to warn a patient of the dangerous character and probably fatal termination of an illness. As thus stated, like its famous precursor, "Which came first, the bird or the egg?" the question has the great advantage of being insoluble, and hence of admitting of unlimited discussion, terminating always in the same *impasse*. What is best to be done in any particular case is a matter of discretion and of circumstances, as to which no general rule can possibly be laid down. The supposed discretion will sometimes be indiscreet, the circumstances will sometimes be wrongly interpreted, and harm must occasionally follow, perhaps more often from undue candour than from improper reticence. Queen VICTORIA'S first Prime Minister, Lord MELBOURNE, was much addicted to the inquiry, "Couldn't you have let it alone?" and a similar inquiry is one with regard to which everybody who feels inclined to action, and especially to action beyond the strict limits of professional or personal duty, may well pause and put to himself before, rather than after, any irrevocable word is uttered. Many authentic cases are on record in which an announcement of probably impending death so precipitated the event as to render the warning useless; and many also in which such an announcement has been received with tranquil resignation, or even with absolute indifference. We recall one instance in which the practitioner concerned was actuated rather by theological than by medical considerations and in which, towards the close of a year, he exerted himself to impress upon a patient that he was not likely to see the year which was to follow. At the next visit the patient recurred to the subject, said that the conversation had rendered him uneasy, that there was a matter to which he ought to attend, and that he could sign his name if the medical man would have the kindness to write at his dictation. A ready consent was given, writing materials were procured, and the sick man dictated a letter to his bankers instructing them not to pay his club subscription on the approaching first of January without further orders. We do not know how long he survived, but it seems practically certain that the knowledge imparted to him did not hasten his decease.

In cases of acute illness there are, we presume, two totally different sets of arguments which might be urged by different people in support of the view that the sick person should be told of the existence of serious danger to life. The first of these would rest upon theological, the second upon purely secular, considerations; and with regard to both the medical practitioner has only to consider the immediate bodily welfare of the patient. The duty and business of the physician is to preserve or to prolong life, and to the discharge of this duty every other consideration should give way. If manifest mental anxiety were present as a cause of depression it should, if possible, be relieved, whether it were dependent upon mundane or ultramundane cares, and the sick man, if strong enough and intelligent enough, might be advised either, in the words of the liturgy, to send for "some discreet and learned minister of GOD'S Word and to open his grief," or to send for some judicious lay adviser, by whom his worldly affairs could be placed in the best train and reduced to the best order that time and circumstances might permit. And either advice might be given, generally speaking, without risk of injury, not as a sentence of death, but on the sufficient ground of the always uncertain issue of serious illness and in order, as a measure likely to contribute towards recovery, to relieve so far as possible any distress of mind to which the sufferer might be a prey. Excepting in novels, however, the conditions described will only seldom be encountered. A patient who is in danger of death owes that danger to definite physical changes in the solids or fluids of his body, changes which generally entail incapacity either for clear perception or for sustained thought, and which afford a very complete protection against emotions which might be injurious if they were in active operation. It is not until the danger has passed away that there is likely to be any consciousness of its extent or character or any manifest dread of the consequences which it might have entailed.

The suicide at Altrincham appears, however, to have been occasioned by knowledge of the probable issue of a chronic illness, and it is not too much to say that it must have been the outcome of mental conditions of a somewhat exceptional kind. It was a practical reassertion of the dictum of the Stoic philosopher who said that if his chimney smoked he would open a window and that if the smoking continued he would open the door of his house and go out. The patient deliberately chose immediate death as an alternative to death reached only by the way of tedious illness; and his choice, from the Stoic point of view, was not unreasonable. But this point of view, in our day, is only met with as an occasional survival and need hardly be taken into account as a guide to the ordinary conduct of practitioners; while it is manifest that the sole reasonable hope of curing many chronic diseases must depend upon a completeness of submission to medical advice which, as a rule, can only be secured by an equally complete realisation of the true character of the issue. How many hundreds of sufferers from tuberculosis, from diabetes, from syphilis, from cancer, throw away their lives either because they are not made fully to understand the alternatives before them or because they are induced by incredulity to stray from the path of safety? A woman with a lump of the size of a marble in her breast will not be saved by being told that it would be "better for her" to consent to its immediate removal, but only by being convinced that nothing but immediate removal will afford any reasonable prospect of the preservation of her life. How many people are there who in an early stage of pulmonary tuberculosis would submit to the discipline necessary for the fulfilment of any prospect of cure if they were only told that they were "delicate" and if the real nature of

their illness was concealed from them under a mist of minimising words? How many diabetics would restrain their appetites, how many of the subjects of syphilis would abstain from marriage and would submit to a mercurial course of the necessary character and duration unless the urgency of the several cases were driven home by clear statements of the facts? Every practitioner will meet with times in which to keep silence; but he will also, and far more frequently, meet with times in which to speak. The increasingly scientific character of medicine is imparting, year by year, a greater amount of certainty to its predictions; and just in proportion as such certainty is attainable will be the urgency of the duty of not concealing from the patient any facts about his condition a knowledge of which may be essential for his guidance. There will always be abundant room for the exercise of discretion; and prudence may often require disclosures to be gradual and manifestly the results of continued study of the evidence. But the fact that some few individuals may seek refuge in death from the irksomeness and the anxiety of a struggle with disease is one that has no real bearing upon the question at issue. The ordinary patient must be brought into a sort of intellectual partnership with the practitioner before he can derive full advantage from the knowledge that is being exerted for the purpose of accomplishing his cure.

The Imaginative Temper in Science.

A DISTINGUISHED Churchman and biologist has given to an exceptionally able work the suggestive title of "The Scientific Temper in Religion," and this idea so exactly embodies another relationship to which we have occasion to call attention that we make bold to annex and adapt his phrase. The occasion to which we allude is afforded by reading some words that fell from Mr. RIDER HAGGARD when recently distributing the prizes to the students of St. Thomas's Hospital Medical School. Mr. HAGGARD exhorted his hearers to fit themselves for their responsibility as scientific practitioners by cultivating, amongst other qualities, their imagination. We consider that Mr. HAGGARD was giving a remarkably good piece of advice, provided always that those who follow it allow their pursuit of science to be not dominated by imagination but tempered with it. The importance of this faculty in relation to science may not be clear to all. Some certainly will tell us that imagination is for the poet—that it is such a spirit as, at the call of the nightingale, transported our famous singer from his Hampstead garden to the forest of Faery "when June was June" a century ago. That spirit was not imagination but fancy. Imagination has more affinity to science, to true constructive science, which transcends the bare collection of facts. Indeed, it may almost be said of the great masters of science who revolutionised their own domains that they were endowed with an imaginative grasp of their subject that gave them a well-nigh prophetic insight to its deepest mysteries; and this insight has served them for an ever-strengthening faith that the minute researches to which they have devoted their lives would one day result in the introduction to the world of thought of a grand and glowing truth the faint image of which had been revealed to them, though darkly, in the glass of their imagination many years before. But herein they showed themselves to be men of science and not dreamers, that before they presented their great gifts to the world they had searchingly and patiently applied to them the touchstone of experiment and ofttimes modified them again and again from their original crude forms; in a word, their imagination was their servant and not their master. For illustration many great names occur. Even though the story of NEWTON'S apple be apocryphal, yet it serves to remind us that he was endowed with an imagination which could conceive of a law of cosmic unity of stupendous import and which had power to urge him to direct the light of his vast intellect upon its elucidation. Will any deny imagination to the scientific faith that in later years confidently announced the existence of an unknown planet with an importunity that met with a triumphant justification? Or if we turn to the sphere of biology, the temper of imagination enters so prominently into the life work of DARWIN and PASTEUR that we are almost tempted to believe that it was this one faculty which lifted them so high above the many great investigators of their century. In the case of the father of bacteriology the insight which led him on from the study of the crystallography of tartaric acid to that of fermentation in plants and thence to the bacterial conception of disease is a pure example of what we mean by the imaginative temper in science.

Many more names might be cited in illustration of this subtle influence in the history of scientific progress but we are constrained to pass to the consideration of the other and dark side of the picture. We are told that "The heathen have imagined a vain thing," and unfortunately that saying is true of the workings of many modern imaginations; indeed, there are far more instances of the unscientific temper in imagination than of the opposite quality of which we have attempted to show the value. The reason why people do harm by imagining vain things is that they will not take the trouble to control their imaginations by the one safe method of laborious and impartial experiment. Let us consider one outstanding example. It was found that certain drugs when administered in minute doses had a controlling action over certain symptoms of disease resembling in each case those produced by the action of the drug on the healthy body. By the exercise of an imagination which was certainly legitimate the founder of homœopathy conceived that all drugs might have this action; if he had only tried them, he would have found that they had not, but instead of doing so he let his imagination get the upper hand and enunciated a general principle which had the unfortunate effect of burdening medicine with a new sect and of producing a considerable amount of professional bitterness. We have amongst us at the present day many beliefs which depend on a distorted imagination, as Mr. HAGGARD reminded his audience at St. Thomas's Hospital, such as that modern distortion of Christianity which goes by the name of "Christian Science," and the effects of those imaginings have been more than once exposed in our law courts, but perhaps it would be fairer to the noble faculty of imagination to class such

vagaries under the heading of superstition. We agree with Mr. HAGGARD in giving that designation to the credulous support which is given to the claims of quacks and patent medicines, although we are not sure that he would not have done better to label antivaccination as the result of sheer selfish and reactionary obstinacy. It is certainly begotten of influences a long way removed from that blend of science with imagination which we set out to discuss.

Annotations.

"Ne quid nimis."

THE GOVERNMENT AND VACCINATION.

ALREADY there are signs that the Vaccination Bill and the General Order associated with it find no favour with those who are immediately concerned with their execution. From vaccination officers there have come a sheaf of published denunciations, while the opinions of public vaccinators, if less freely expressed, have been equally emphatic in their condemnation. The Bill has, indeed, little to excuse it, not even a "mandate." It cannot be claimed that more than a relatively insignificant proportion of the inhabitants of this country are genuinely opposed to vaccination. On the other hand, a considerable number of persons, for various trivial reasons and without conviction, are willing to dispense with it. It is to these ill-informed and wavering persons that the facility of exemption by simple declaration will chiefly appeal. For them a too indulgent administration has made provision accordingly. We cannot admit the wisdom of such a course. If vaccination had nothing to do with the public health or any other matter of importance so complaisant an attitude might be justified. Since it is the only safeguard against small-pox known to science, a proved and trustworthy remedy, and on these points there can be no question, then the case is entirely different. To tamper with such a fact as this is to play with fire, for the issues of misapprehension must be disastrous. It is impossible to reconcile with any due sense of the importance of these issues the rapid, almost casual, manner in which this Bill passed through its second reading. The principle of compulsory vaccination has never been condemned or even seriously indicted. On the contrary, it has been accepted and approved by the great majority of the population as a sanitary necessity. Yet a mere handful of gentlemen, one-fifth of the membership of the House of Commons, few with expert knowledge, have been permitted not only to threaten but, unless their decision be reversed, even to terminate its existence. This, moreover, without the slightest reference to public opinion. Surely the inherent faults of party government and the unreality of our so-called representative system were never more graphically exhibited than in this case. We sincerely trust that a measure so little desired by the country and so undesirable on sanitary grounds will not survive the later and calmer judgment to which it is certain to be subjected in both Houses of Parliament. The General Order, in so far as it is new, is a somewhat crude production. That part which relates to the position of public vaccinators alters nothing save the fee, some slight apparent concessions having little real significance. The amount and character of the work are unchanged, but the fee in large towns is reduced by one-half, and in smaller towns and in country districts by nearly a third. The public vaccinator is thus made to accept a much reduced remuneration for his services and incidentally to undersell his brethren engaged in private practice. At the same time, two different standards of payment are adopted—a proceeding which will not only mar the simplicity of administration but will create an invidious distinction which in many cases cannot be justified either on the plea of distance traversed or of professional preoccupation. There are indications that all boards of guardians do not view the proposed reduction with equal favour and their uncertainty with regard to it will not be lessened by the circumstance that under the terms of the Order the whole responsibility for this alteration will rest on them. If the prospect before public vaccinators is not cheerful that of vaccination officers is positively alarming. At present four months are allowed in which a parent may obtain exemption. If at the end of that period he shall not have done so and his child remains unvaccinated the vaccination officer must take steps to have the vaccination performed. Under the new Order this officer will have to notify the parent *three weeks earlier*, stating that in default of "some legal excuse for non-vaccination" he must request the public vaccinator to vaccinate in due course—i.e., after a month has elapsed. He will also "be glad to be informed" if the parent "proposes some other arrangement for the vaccination." He is thus made to come almost as a suppliant and practically to remind the parent that only one month remains in which to claim exemption—a virtual surrender of his office in favour of an opposite policy. The vaccination officers have applied in vain for some compensation for the loss of income which they are certain to incur, or for some fixed arrangement as to salary. Not even are they to be allowed a small fee for their suicidal efforts in notification. Naturally as a body they feel aggrieved and they have in mere self-defence been driven to protest. The net result of these various legislative and administrative changes must be the discouragement of vaccination throughout the country. It is possible that this result may be brought about, and thus by rash interference with an Act which was working admirably and with very general acceptance, and by mere unsteadiness in administration that public security which is the fruit to-day of many years' experience and care may soon be broken down. Instead of it will come uncertainty, distrust, and the danger of epidemic. We have only to let go our present system of business-like efficiency and to adopt some such policy of indifference as is now proposed. Whether and whither that policy will be suffered to lead us will greatly depend upon the judgment exercised by Parliament and by boards of guardians in dealing with this important question of compulsory vaccination.

THE LEAGUE OF MERCY.

VERY effective support is afforded to the King's Hospital Fund by the League of Mercy, over which T.R.H. the Prince and Princess of Wales preside as Grand President and Lady Grand President, and as such take a most active interest in the welfare of the league. This was again shown on July 8th, when they held a reception in Marlborough House of the presidents and lady presidents, followed by a garden party, to which many vice-presidents and members of the league were invited, and at which the Grand President distributed the Order of Mercy to those ladies and gentlemen to whom its award had been sanctioned by His Majesty the King, the Sovereign of the Order. Many prominent members of the medical profession were invited to be present. The work of the league can best be indicated by a quotation from the Prince's speech to the presidents. "The operations cover a larger area than before, and the sum of £18,000 which has been handed over to the King's Fund is £3000 more than was contributed in the previous year. It is very satisfactory to find that in the eight years of the league's existence £79,000 has been given to the hospitals through the medium of the King's Fund, and I think we may safely infer that one of the principal objects of the League of Mercy—namely, the encouragement of personal service on

the part of a large number of persons in the adequate management of the hospitals—has been largely attained. Grants have been made to several hospitals situated within the home counties, but outside the area of distribution of the King's Fund. In 1906 these amounted to about £500 and were paid direct to the hospitals after inspection and report. It is contemplated that a larger sum shall be so awarded during the current year." The work of the league is carried on by a network of some 106 "districts" spread over London and the home counties. Nearly every Parliamentary division within this area has its branch of the league, but even yet the organisation of its machinery is not fully completed. There are, however, 182 presidents and lady presidents working under T.R.H. the Prince and Princess of Wales as Grand President and Lady Grand President. Under these, and in coöperation with them, are some 1200 ladies and gentlemen acting as vice-presidents and lady vice-presidents and directing the work of some 20,000 members of the league who in their turn have enrolled as associates—that is to say, subscribers of from 1*s.* a year and upwards—more than 200,000 men, women, and children. Every shilling so subscribed goes directly to the hospitals without any deduction.

GIUSEPPE GARIBALDI.

JUST 25 years ago[1] we commented on the life and work of the Italian hero then lost to his country and compatriots; and now, when the Italian world, and much that is outside it, has been celebrating the first centenary of his birth we return to the theme. That interval of a quarter of a century has in no wise modified our estimate of the man, nay, as in the case of the mighty statesman Cavour and the soldier king Victor Emanuel, whose policy he helped to carry out, his figure stands forth larger and nobler from the background of years. Intellectually there have been popular leaders far superior to Garibaldi; morally, in heart and soul, few have been so richly endowed. His judgment was frequently at fault; so much so that when his impulse got the better of his prudence Cavour's successor, Massimo d'Azeglio, could say of him: "Garibaldi has the heart of an angel and the head of a buffalo." When he took the field on his own account he almost uniformly failed; when he was following out, consciously or unconsciously, the policy of Cavour he brilliantly succeeded. Not that his failures were without wholesome fruit. Generous initiative is never thrown away, and even his abortive raids on the Temporal Power in 1862 and 1867, as Gregorovius, Rome's great historian, has proved, gave a turn to events which not long after issued in the triumph of the cause which he had at heart. That cause consummated, he, like Cavour before him, sought to educe from it the development of the country's resources, above all, the resuscitation, the ennobling of the nation's character. "We have made Italy," said d'Azeglio, "we have now to make Italians," and in that spirit he set to work. In the January of 1875 he left his island rock for Rome, took his seat in Parliament after taking the oath of fealty to the King, and lost no time in impressing on his compatriots their need for moral, material, ay, even physical rehabilitation. To a dense audience of Romans assembled in the mausoleum of Augustus he conveyed many home-truths—among others this: "What you want is the English steadiness," a lesson which, in the opinion of many Italians, they have yet to learn; and to accelerate that consummation he "began at the beginning," urging the erection of schools, and showing the example of starting them with the aid of English subscribers in the neighbourhood of his island-rock. As to his schemes for reclaiming the Campagna—deflecting the Tiber into the Anio and carrying their united waters round the city into the sea—they never survived the criticism of the great engineer Brioschi, but, all the same, they brought to the front the crying need for the agricultural restoration of the Agro Romano to the productiveness and the salubrity which it enjoyed under the Antonines when the "vegetative energy" of the soil was duly absorbed by cultivation and no "intoxication tellurique" found (or created) a congenial "carrier" in the mosquito. In the same spirit he sought to improve the national physique by a wise and systematic athleticism, and here again his initiative has borne fruit till we see football clubs and outdoor "palaestrae" beginning in Piedmont and gradually penetrating to other provinces and the movement for physical regeneration acquiring such proportions that Rome is to be the seat, next October, of a great congress of "Terapia Fisica," at which every nationality that can assist its object will be represented. The "Good Genius" of that assembly will, indeed, be Giuseppe Garibaldi, who, knight errant as he was, saw other fields for "prowess" than those of war; who, responsive to the delight of battle as the *Re Galantuomo* whom he served, could justify it only as a painful pre-requisite for attaining those conditions under which humanity develops freely and normally and who, in death as in life, is yet a spell potent for the philanthropic ideal:—

> ". . . . . when all men's good
> Is each man's rule, and universal Peace
> Lies like a shaft of light across the land,
> And like a lane of beams athwart the sea,
> Thro' all the circle of the Golden Year."

[1] THE LANCET, June 10th, 1882, p. 956.

LATENT MALARIA.

THE *Yale Medical Journal* for June contains an important paper by Dr. C. F. Craig on Latent Malaria—a subject that has not received sufficient attention. By latent malaria is meant infection with the plasmodium malariæ without the production of symptoms of sufficient intensity to attract attention. Dr. Craig's paper is based upon 1653 cases of malaria, of which 1267 were observed in the United States Army Hospital in San Francisco in American soldiers who had returned from the Philippines, and 386 cases observed in the Island of Luzon. Of the latter, 138 cases occurred in natives. Of the 1653 cases 424, or a little over 25 per cent., were latent. The latent infections included all forms of malaria—tertian (110 cases), quartan (8), æstivo-autumnal (297, of which 272 were tertian and 25 quotidian), combined tertian and tertian æstivo-autumnal (7), and combined tertian and quotidian æstivo-autumnal (2). In Americans there were 307 cases (24 per cent.) of latent malaria, of which 220 were due to the tertian or quotidian æstivo-autumnal parasite. The preponderance of this organism is due to the fact that it is more resistant to quinine than the others. From an epidemiological point of view, the importance of recognising latent cases of malaria is great, because a person with latent malaria may be a source of infection to the community in which he lives. Hence the blood of persons returning from a malarious district ought to be examined. The extent to which latent infection may prevail is shown by the following facts. A company of 60 infantry returned to San Francisco after duty in a notoriously malarial region in the Philippines. 14 were in hospital for malaria, and examination of the blood of the remainder who were doing duty showed malarial infection in 27. Of these 25 were infected with æstivo-autumnal plasmodia—13 showing crescents of the tertian type; two showing crescents and ring forms of the quotidian type; and 10 showing crescents and ring forms of the tertian type. These figures are important because they show that the type of plasmodium is the most dangerous one, and that it is usually present in the crescent form, which is intended to

complete its development in the mosquito. Thus the subjects could infect the anopheles wherever they might go. Among the Americans a large number of latent malarial infections occurred as complications of other diseases. These cases amounted to 106 and the original diagnoses included all forms of disease. Among the more frequent were chronic diarrhœa, chronic dysentery, amœbic dysentery, pulmonary tuberculosis, and chronic gastritis. In nearly all cases treatment with quinine by removing the malarial infection produced marked improvement. The cases of non-amœbic dysentery and diarrhœa raise the moot question whether there is a form of dysentery due to localisation of the malarial plasmodium in the capillaries of the intestine. The existence of latent malaria in a large proportion of native children who live in malarious districts has been shown by many observers. Koch found malarial parasites in the blood of 100 per cent. of native children in West Africa. As the children grow up the infection seems to disappear. Dr. Craig found malarial parasites in the blood of 51 per cent. of the Philippinos of a malarious locality. The æstivo-autumnal parasite predominated but all forms were represented. The adult Philippinos appeared to be infected much more frequently than the natives of Africa or India. Another form of latent malaria may exist in which no parasites are present in the peripheral blood. The disease then can be recognised only by splenic puncture or on necropsy. Dr. Craig has observed seven such cases in which death was due to some other disease and malaria was not suspected and was discovered on microscopic examination of the viscera. The spleen was considerably enlarged and its sinuses were congested and pigmented and contained numerous infected cells and pigmented leucocytes.

THE HEALTH OF HUDDERSFIELD.

THE county borough of Huddersfield has in recent years become famous among English municipalities by reason of the public spirit shown by the corporation in its efforts to improve the health of the people, and especially to reduce the formerly excessive infantile mortality. We have lately received the report of Dr. S. G. Moore, the medical officer of health, which deals with the mortality of that town in the first quarter of the year 1907. We direct attention to this report because of some remarks which it contains on the calculation of local rates of birth and of mortality. Dr. Moore is evidently dissatisfied with the national method of estimating populations, presumably because Huddersfield is thereby shown to possess a declining population. He points out that there is no ground for the assumption, on the one hand, that the rate of increase prevailing in the recent intercensal period changed abruptly at the time of the census, or, on the other hand, that the rate of decrease in that intercensal period must continue. Therefore he argues that in estimating local populations it is justifiable to take into account "the increase of inhabited houses, of scholars in attendance at schools, &c., as well as of the excess of births over deaths." These corrections Dr. Moore appears to have applied to the population of Huddersfield and thus to have arrived at the conclusion that instead of the decrease estimated by the national method the population of that town has increased since the last census by some 5000 people. Dr. Moore properly recognises that in estimating populations for his periodical returns the Registrar-General must employ a system which shall be generally applicable. Having no official knowledge of local conditions he has no choice but to follow this course. Upon this point, however, we may remark that it is for this reason amongst others that medical officers of health are expected to calculate rates of birth and death for their several districts, which shall be duly corrected according to local requirements. And, further, we believe that in at any rate one important instance the Registrar-General some years ago consented to revise his estimate of a population on his being supplied with satisfactory evidence derived from the local rate-books. We have no space here to discuss the difficult question of population estimates, but we entertain considerable doubt of the expediency of publishing death-rates for small populations and for short periods of time. Estimates of population on the national method for the whole country or even for large sections of the population have generally proved fairly trustworthy. But when, as in the case of Huddersfield, rates are published not only for quarterly periods but for separate diseases and for areas containing not more than two or three thousand inhabitants, the result is almost certain to be misleading.

DISLOCATION OF THE UPPER END OF THE FIBULA.

THIS is certainly one of the rarer dislocations, only some 25 cases being discoverable in surgical literature. An instance has been recorded by Dr. Frank B. Golley of Milwaukee in the June number of the *American Journal of Surgery*. A man, weighing about 13 stones, slipped and fell with his left leg and foot directly under him, and at the same time he heard something snap. When seen two hours later the chief sign visible was swelling over the ankle and the lower third of the left leg. No fracture could be found, but the external lateral ligament of the ankle was torn. Next day the patient complained of a grating or grinding sensation in the calf of the leg when the foot was flexed or extended. Dr. Golley then discovered a displacement outwards and forwards of the upper end of the fibula; it was especially noticeable when the foot was flexed or extended. The dislocation was easily reduced and a plaster-of-Paris bandage was applied. When the splint was removed three weeks later the displacement did not recur, but the ankle was stiff and lame for a month longer. Very rarely indeed this displacement may be the result of direct violence. In most cases it appears to be due to slipping or falling, the violent contraction of the muscles in front and at the outer side of the fibula, to check the fall, producing the displacement. In some cases, as in that above detailed, the leg and foot are forcibly twisted under the body, the foot being in a position of dorsal extension. In this way also severe traction would be made on the upper end of the fibula. If kept in position for three or four weeks there seems to be no tendency to recurrence.

THE LONDON COUNTY COUNCIL AND THE MILK-SUPPLY.

AT the weekly meeting of the London County Council on July 9th a report of the public health committee was presented dealing with certain proposals for legislation in the session of 1908. In this report the committee recognised that the most urgent need for legislation on public health matters was that of securing to the inhabitants of London a pure and uncontaminated milk-supply. There were clauses in the Council's General Powers Bill of 1907 enabling the Council to detect and to stop the supply within the county of tuberculous milk, and it was proposed that the Council should seek authority to deal with milk which at the time of entry into London was contaminated with dirt and filth. To that end the medical officer would have power to take samples of milk at railway stations and elsewhere and on ascertaining that such milk was tuberculous to inspect the farm from which the supply was derived. The supply would be stopped if it was proved that the cows were affected with

tuberculosis of the udder. No one can deny that such a system of control is desirable, the only debateable question being whether such control should be administered by the County Council as the central authority or by the local sanitary authorities. Meantime, the President of the Local Government Board has announced his intention of introducing a national Bill on the subject. Ultimately the Council decided to adopt an amendment, moved by Mr. Felix Cassel, that general legislation affecting the whole country and more effective administration are necessary for the purpose of securing a purer and more wholesome supply of milk and that representations to that effect should be made to the President of the Local Government Board and that it be referred to the public health and Parliamentary committees to give effect to this proposal. Further, the public health committee was instructed to report in detail as to any legislation which it may consider necessary for the purpose of securing a pure and wholesome milk-supply for London in particular pending, or in addition to, general legislation after conferring with, or otherwise ascertaining the views of, the metropolitan borough councils and the corporation. The amendment was adopted as a substantive motion and it was further agreed that powers should be sought to enable sanitary authorities in London to register cowkeepers, dairymen, or purveyors of milk or to remove them from the register in the event of their premises being found unsuitable for the sale of milk.

A WINTRY JUNE.

A VERY unsatisfactory May has been followed by a June that was not only disappointing but actually miserable. The north-easterly and easterly winds of the former month did occasionally allow the thermometer to rise to the normal or even above it, but the south-westerly and westerly winds which largely predominated during June scarcely ever permitted the temperature to reach its average level during the afternoon, and generally kept it at some degrees below that point. During June of 1906, a by no means warm month, the shaded thermometer in London rose to 70° F. or above on 18 different days, but only once during last month did the metropolis experience the warmth of 70°. Such a continued low temperature may have occurred during some Junes of the past century, but statistics prove that no June of the last 35 years has given such monotonously cool weather, although several have been wetter and some have afforded less sunshine. As many of the nights, however, were rather mild the mean temperature for the month was not nearly so much below the average as the persistent cold days would cause to be supposed. In London the mean warmth of the nights was 51·2°, which is 0·9° above the average, but the mean temperature of the afternoons was only 63·6°, a figure as much as 5·7° below the normal. The low temperature was in a large measure the result of the cloudy and overcast sky but that it was not entirely due to the absence of sunshine is proved by the fact that on days when the sky chanced to be practically cloudless the maximum temperature readings were still low. On the 16th Westminster enjoyed continuous sunshine, a total duration of nearly 14 hours being recorded, and yet the highest point attained by the screened thermometer was only 63°, more than 6° below the average, while the solitary maximum above 70° (on the 9th), was reached with about half the amount of sunshine. A similar lack of seasonable warmth during almost constant sunshine occurred on several days both in the metropolis and over the kingdom generally. Below will be found the aggregate duration of sunshine recorded by the Campbell-Stokes burning instrument for June both of this and last year, together with the differences from the average. The figures show that, considered generally, the minus value of last month was greater than the plus value of the sunny June of 1906. Several places on the south coast and others in the south-east and south-west had more than two hours per day less than the average duration. The brightest spot was Sandown, Isle of Wight, for which place there is unfortunately no trustworthy average, while the places with the least divergence from the known average were Margate, Blackpool, and London (Westminster). Some of the coastal resorts were subject to attacks of sea-fog, and the abnormally small number of hours recorded at Aberystwyth, little more than three per day, was to some extent due to that unwelcome phenomenon.

—	1907.		1906.	
	Number of hours.	Difference from average.	Number of hours.	Difference from average.
Aberdeen	149	− 37	195	+ 8
Lowestoft	165	− 63*	228	+ 10*
Clacton	175	− 55*	251	+ 21*
Margate	178	− 8	224	+ 38
Folkestone	192	− 35*	246	+ 20*
Hastings	166	− 73	260	+ 31
Eastbourne	191	− 56	273	+ 51
Brighton	158	− 65	246	+ 23
Worthing	175	− 62*	261	+ 24*
Bournemouth	183	− 22*	271	+ 66*
Sandown, I.W. ...	209	?	209	?
Torquay	167	− 62	262	+ 35
Jersey	170	− 72	269	+ 27
Tenby	155	− 74	221	− 3
Aberystwyth	104	?	163	?
Llandudno	147	− 57	238	+ 34
Blackpool	179	− 20	247	+ 48
Harrogate	149	?	200	?
Bath	146	− 40*	236	+ 50*
Nottingham	141	− 56*	185	− 12*
London	147	− 20	231	+ 64

* The differences marked with an asterisk are obtained from an average for a comparatively few Junes.

A CASE OF ANNUALLY RECURRING LARYNGEAL SPASM.

A PECULIAR case of temporary laryngeal spasm, recurring annually at about the same time, is recorded by Dr. M. Hajek in the *Wiener Medizinische Wochenschrift* of March 30th. The patient came under observation first on Feb. 17th, 1898, complaining of great difficulty in breathing of four days' duration. An adenoma of considerable size was found in the left lobe of the thyroid body. Laryngoscopic examination was very difficult owing to the urgent dyspnœa. The patient was kept in hospital and the goitre was removed, but the dyspnœa persisted for about 14 days afterwards. During the next two years no further trouble was experienced, but in February, 1901, sudden and urgent dyspnœa developed of so severe a character that tracheotomy was performed. Three weeks later the cannula was removed, the breathing was quite natural, and on laryngoscopic examination both trachea and larynx appeared normal. In February, 1902, another attack of dyspnœa developed, lasting until the middle of April, but of less severe character, so that no medical assistance was sought by the patient. Since that time similar attacks have occurred each year, beginning at about the middle of February and lasting until the middle of April. The dyspnœa is constant during this period both day and night and practically without any remissions. It is apparently not influenced by any medicinal treatment. The attack commenced this year on Feb. 4th. The patient was observed to be dyspnœic, with stridorous breathing, and a cyanotic appearance of the skin and mucous membranes. On laryngoscopic examination the vocal cords were shown

to be slightly congested and in a position of extreme adduction, the patient breathing practically through the small aperture between the arytenoids or the "transverse triangle." That this adduction is not the result of paralysis of the abductors is proved by the facts that during laryngoscopic observation a momentary abduction of one or other cord can be seen from time to time and that after the cessation of the attack laryngeal movements appear to be absolutely natural. If laryngoscopic observation were at all prolonged the dyspnœa was much aggravated. Treatment by cocainisation, by narcotics, and by the passage of laryngeal bougies all proved unavailing. No other sign of disease was discovered and there was no indication that the condition was of hysterical nature. Dr. Hajek discusses the nature of his case and makes the suggestion that it may be an atypical form of tetany on the following grounds: the patient is a shoemaker, a trade which affords a not inconsiderable percentage of cases of that disease; cases of tetany commonly commence in the month of February; and in children, at any rate, the association between laryngeal spasm and tetany is well recognised. On the other hand, the dyspnœa was constant instead of intermittent, no trace of spasm in any other muscle was observed, while Trousseau's sign and the over-excitability of the nerves (Erb's sign) were both wanting, the only other condition suggesting tetany being that the "facial phenomenon" was very marked. In discussing the possibility of an association between these attacks and the degeneration and extirpation of the thyroid body Dr. Hajek comes to the conclusion that it is improbable, since one attack began before the operation was performed, while after it there was an interval of two years free from dyspnœa. The case is an obscure one and its actual nature is admittedly doubtful, but in support of Dr. Hajek's suggestion it is interesting to recall that tetany is very common in Vienna and may occur in epidemics, especially during March and April, and that of 399 cases collected by Frankl-Hochwart 174 occurred in shoemakers.

"PREVENTIVE MEDICINE THE MEDICINE OF THE FUTURE."

AT the Congress of the Royal Institute of Public Health which was held at Douglas (Isle of Man) at the beginning of this month, Sir James Barr delivered a presidential address in the section of preventive medicine, which in its vigour of expression and felicity of phrase was well worthy of its distinguished author. He took for his text "Preventive Medicine the Medicine of the Future," and preached a crusading sermon against the *laissez-faire* attitude with which too many people are content to contemplate a vast amount of preventable disease and self-inflicted national degeneracy, and he did not spare that curious perversion of "Religion" that attributes to the will of God the results of our own national hygienic and genetical shortcomings. He began by remarking that in interesting himself in preventive medicine he was not opposing his professional interests, for "as long as people are alive there is a chance of making something out of them, but once they are dead the interest of the medical man ceases, except from a pathological standpoint, or in the aggregate for statistical information." He then proceeded to unfold his main contention that the reason why the successes of sanitarians have been limited is because they have devoted so much attention to the prevention of zymotic disease and the preservation of life rather than the improvement of health. If medical men would deal with physiological conditions as well as pathological, and tell patients how to keep well and not merely how to get well, they would get more patients. This is a very pretty theory, but we are not able to endorse it fully. If there were a real demand for information as to the rules of health on the part of a large number of people we may be sure that our profession would be only too pleased to supply them; the trouble is to get even those who are ill to follow the dictates of reasonable authority as to their mode of life unless they be actually suffering some pain or other subjective reminder of their condition. If, however, the profession as a whole would more firmly impress the vital importance of prophylactic personal hygiene upon all and sundry as readily as it has, since the decline of Greek medicine, dealt out drugs to them, the public demand for advice on the best manner of living in order to prevent disease might become as general as has the clamour for physic to cure it. Sir James Barr devoted some attention to political matters, especially urging that before granting pensions to old people it is the duty of the nation to provide for the adequate nutrition and hygiene of its nursing mothers and young children, and to see that its school children are properly fed before any attempt is made to teach them, whilst it might well leave to individuals the care of their own old people. He quoted Lord Beaconsfield to the effect that "The public health is the foundation on which repose the happiness of the people and the power of a country. The care of the public health is the first duty of a statesman." He considered that if the nation will only do its duty in this matter there will speedily follow a check to the diminution of the birth-rate and, what is of more importance, a marked decline in the infantile death-rate. We need not enter into his discussion of the latter subject as it has been so often before our readers, although it cannot be too often restated to the public with such force as Sir James Barr knows how to infuse into his utterances. He paid a handsome tribute to the *personnel* of the navy and the army as the flower of English manhood and the hope of salvation of the country and extolled the military training as the best means of insuring national health and physique. Passing to the question of physical deterioration he favourably regarded Dr. Rentoul's drastic proposals to prevent the propagation of the race by the unfit and he expresses his view that heredity has much more to do with the welfare of the nation than those who so strongly proclaim the all-important influence of environment are disposed to allow; he agrees, in fact, with the transatlantic counsel that a man cannot be too careful in the selection of his parents. He is much concerned at the deafness of our legislators to the report of the Committee on Physical Deterioration, to the opinions of which he gives his full support. He is able to find some consolation in the national outlook on the distaff side and remarks, "I have great faith in the British women, the potential mothers of the next generation. They do not show so much deterioration, except in the very lowest strata, as the men, and in the upper and middle classes the girls of to-day will bear a very favourable comparison to their mothers and grandmothers." The last half of the address consisted of an examination of the increase or decrease that has taken place of recent years in the death-rate from various diseases. After giving credit to sanitary science for the decline in the ravages of tuberculosis and many of the specific infectious disorders he called attention to the fact that there has not been a corresponding diminution in deaths from those that more especially affect children, but his chief indictment was against the apathy that exists concerning the enormous yearly loss of life from pneumonia which with the observance of proper caution might be a much more preventable disease than it is considered to be. He dwelt also on the wide scope for preventive medicine in guarding against diseases of the heart, kidneys, and blood-vessels which are on the increase owing "no doubt largely to greater wear and tear, more worry and anxiety in life." It is in this sphere undoubtedly that the preventive activities of the general practitioner should find their scope and we consider that Sir James Barr has done

good service in calling attention to the matter. He concluded a fighting speech by again asserting that he was concerned with the efficiency of life and not merely with a useless longevity and that the maintenance of the vitality and manhood of the nation is the true aim of medicine. His last word was for the surgeons whose very existence he ascribes to the inefficiency of true preventive medicine. Whatever view may be taken of Sir James Barr's opinions there will be few people who will regret that he had the courage of their free expression before a mixed audience, for they cannot fail to have set his hearers thinking deeply about a subject of national import.

EPSOM COLLEGE.

FOUNDERS' day at Epsom College will be held this year on the afternoon of July 27th, when the distribution of prizes will also take place. A service will be held in the school chapel at 2.45 P.M., and the new east window will be unveiled by the treasurer of the College, Mr. Henry Morris, himself an old Epsomian. The window, which has been erected by old Epsomians and friends of the school, will be dedicated by Dr. Furneaux, the Dean of Winchester. The Dean of Winchester will also distribute the chief prizes and will deliver an address. A parade of the cadet corps will take place during the afternoon.

EPIDEMIC CEREBRO-SPINAL FEVER.

IN London during the month of June there were 17 cases of cerebro-spinal meningitis notified, four of them belonging to Stepney, two to Poplar, and one to each of 11 other boroughs. A death from the disease has also occurred in Nottingham, being the fourth fatal case in that city. In Scotland during the week ended July 6th there were ten deaths from this cause registered in Glasgow, three in Edinburgh, and three in Leith. In Glasgow the weekly report issued on July 5th showed that there were at that time 74 cases under treatment. In Belfast during the week ended July 6th there were five deaths registered as being due to this cause.

SUNDAY LABOUR.[1]

THE Sunday question is not an easy one to solve and, as might be expected, therefore, the literature dealing with it is not small. From "Seven Days' Hard Labour" we learn that in the British Museum the books or issues of various kinds dealing with the subject are nearly 200 in number, in the Bodleian Library at Oxford 169, in the Advocate's Library at Edinburgh 280, in the Royal Library at Berlin 215, and in the Congress Library at Washington 125. The present little book in question is a plea for a weekly rest day Act of Parliament for all classes and consists of a series of chapters pointing out the evil effects on the body and higher psychic functions of Sunday labour. One chapter is written in collaboration with Dr. Henry Shackleton and the arguments in the book are supported by men of authority, medical and clerical, of course, but also among all classes whose opinions carry weight. The work of our police service and omnibus and tramway men is dealt with, Sunday on the continent is discussed, the legislation on the subject is described, and the hygienic aspects of the question are pointed out. There can be no doubt that from many causes Sunday is becoming more and more a day of pleasure, with the necessary sequel that there is an increasing demand for Sunday labour. But no legislation is likely to restore to us the position which Sunday once held as a day of rest until some alteration takes place in our social and economic conditions. So far as the working classes are concerned, and it is principally in their interests that the book is written, the need for some change of occupation is the primary factor which causes them to seek forms of amusement on Sunday which do not tend to the best results, while increased work is entailed on other members of their class. Excursions by overcrowded trains or visits to concert rooms where the air is of necessity vitiated, for example, are not ideal methods of counterbalancing the effects of the week's toil but the laws of nature demand reaction which might take a worse form. We might as well try to ameliorate social and economic evils by prohibiting the use or invention of machinery as to interfere with the Sunday question by legislation. In both cases the remedy lies in the direction of further opportunities for relaxation during the weekdays and as the public become more and more educated in matters which concern the health of the individual and of the community and recognise the fact that proper rest and recreation during the working days lead in the long run to better work and the general good of all classes, so will the tendency to make Sunday the least restful of days lessen. It is only by education that true reform in this matter will be brought about. "Seven Days' Hard Labour" should do something to help a cause which has our full sympathy.

[1] Seven Days' Hard Labour: The Bitter Cry of the Sunday-less. By T. Bowick. London: The National Hygienic League. Price 6d.

A NEW RADIO-ACTIVE SUBSTANCE.

IF the announcement from the School of Medicine at Rochfort this week is true that a substance has been prepared which shows the same radio-activity as does that of radium bromide, a very considerable impetus will be given to the study of radio-active phenomena. It is said that the substance is uranyl-molybdate, and judging from its constitution there should be no difficulty in preparing it or any trouble about finding plenty of materials, for uranium and molybdenum are fairly abundant elements. The molybdate is formed by adding ammonium molybdate to uranyl nitrate when a white amorphous powder separates. This is dried in the dark and apparently must be kept there as it is unstable. Report says that it gives radio-active effects which are practically as intense as those given by radium. Though costly—namely, about £22 per ounce—the price is not so enormous as is that of radium which has reached many thousand pounds for the same quantity. The further developments of this discovery, made by quite a young student named Andre Luncien, will be awaited with interest.

THE CHILDREN'S HOLIDAY.

THERE are some things of which it is difficult to appraise the value. One of them is the smile of a child and that smile, when brought about by a change from impure air and sordid surroundings to the pure air and beauties of the country, is enhanced considerably in value. Year after year we plead on behalf of the many societies whose objects are the provision of annual holidays for the poor children who live in our slums and alleys. Alas, that such places should still remain with us, but while they exist it is the duty of everyone who is able to assist these societies in their benevolent and truly national work. For, as we have frequently pointed out, it is not only the individual child who receives benefit but also the community in general. The Bishop of Stepney has issued an appeal to the press on behalf of the Children's Fresh Air Mission, a society which chiefly deals with the 3000 children in the overcrowded streets of Clerkenwell, Holborn, and St. Luke's, and to give these children the holiday which they so urgently need at least £1500 in addition to the sums already received are required. For the sum of 10*s.* one of these children will receive a fortnight's holiday amidst surroundings which can only be described as elysian, as compared with the environment

of their daily life, and 10s. could not be more profitably invested. Subscriptions and donations, however small, towards this object will be welcomed by the secretary of the Children's Fresh Air Mission, St. Peter's Schools, Onslow-street, Clerkenwell-road, London, E.C. Another appeal for help comes from the Boys' Brigade Seaside Camp, of which the secretary is Mr. R. S. Peacock, 34, Paternoster-row, London, E.C. "Last summer," the President writes, "2768 London boys out of a membership of 7000 were able to taste the delights of a week or ten days under canvas and a larger number still are hoping to be present this year. While the boys themselves, by saving up their spare pence during the winter months, contribute over one-half the cost of the camps, a large sum is needed to supplement their payments. The cost per boy is about 15s. Thus every pound contributed will enable three boys, who would otherwise perforce spend such holiday as they receive in listless idleness in the hot and arid streets of the metropolis, to join with their comrades in the joys of a week by the sea." The advantages of a holiday of this kind are too obvious to need any comment and we trust the brigade will receive the support which it certainly deserves.

A CASE OF CEREBRO-SPINAL MENINGITIS POSSESSING MEDICO-LEGAL INTEREST.

EPIDEMIC cerebro-spinal meningitis is fortunately somewhat rare in London, only seven deaths from this very fatal disease having occurred within the metropolitan area during the month of May. The most recent case to which public attention has been directed presents some remarkable features. The patient was a costermonger, aged 28 years, who was assaulted by roughs in Radnor-street, St. Luke's, on June 16th, and received lacerated wounds of his head and face, for which he was surgically treated. He was afterwards admitted to St. Bartholomew's Hospital with symptoms which, in conjunction with his other injuries, were supposed to indicate fracture of the skull. Death took place on June 27th but at the necropsy there was no evidence of fatal lesions due to the assault. A diplococcus was, however, discovered in the cerebral fluids or membranes and in the result the jury returned a verdict to the effect that death was caused by cerebro-spinal meningitis, or "spotted fever." One of the men who attacked the deceased received a sentence of two months' hard labour and no doubt his associates are relieved to find that a charge of manslaughter will not be preferred against them.

MEDICO-PSYCHOLOGICAL ASSOCIATION OF GREAT BRITAIN AND IRELAND.

THE sixty-sixth annual meeting of this association will be held on Thursday and Friday, July 25th and 26th, at 11, Chandos-street, Cavendish-square, London, W., under the presidency of Dr. P. W. MacDonald. There will be a meeting of committees previously, on Wednesday afternoon. The council will meet at 9.30 A.M. on Thursday morning and the annual meeting will commence at 11 A.M. After the election of officers for the ensuing year, the adoption of reports, and other formal business has taken place in the morning the President will deliver his address in the afternoon and Dr. Charles C. Easterbrook will read a paper entitled "The Sanatorium Treatment of Active Insanity by Rest in Bed in the Open Air." In the evening the annual dinner will take place at the Whitehall Rooms, Hôtel Métropole, at 7.15 for 7.30 o'clock. Tickets £1 1s., wines included. On Friday morning Dr. T. S. Clouston will introduce a discussion upon Psychiatry as a Part of Public Medicine; Dr. Albert Wilson will give a clinical demonstration and read a paper on the Psychology of Crime; and Dr. Henry Devine will read the notes of a case of katatonia in a congenital deaf-mute, illustrated with lantern slides. In the afternoon Dr. W. Ford Robertson and Dr. G. Douglas McRae will communicate "Observations on the Treatment of General Paralysis and Tabes Dorsalis by Vaccines and Antisera," and Dr. Lewis C. Bruce will read a paper entitled "Clinical Observations on Certain Cases of Mental Depression." Members are requested to notify their intention of dining to the honorary general secretary, Dr. C. Hubert Bond, at 11, Chandos-street, Cavendish-square, London, W.

WORKMEN'S COMPENSATION ACT, 1906.

THE Home Secretary has made the following regulations as to examinations of a workman by a medical practitioner provided and paid by the employer under the provisions of the First Schedule to the Workmen's Compensation Act, 1906:—

1. Where a workman has given notice of an accident or is in receipt of weekly payments under the Act, he shall not be required to submit himself, against his will, for examination by a medical practitioner provided by the employer except at reasonable hours.
2. A workman in receipt of weekly payments shall not be required, after a period of one month has elapsed from the date on which the first payment of compensation was made, or if the first payment is made in obedience to the award of a committee or arbitrator, from the date of the award, to submit himself, against his will, for examination by a medical practitioner provided by the employer except at the following intervals: Once a week during the second, and once a month during the third, fourth, fifth, and sixth months, after the date of the first payment or the award, as the case may be, and thereafter once in every two months.

Provided that where after the second month an application has been made to the county (in Scotland, the sheriff) court or to a committee for a review of the weekly payment, the workman may be required, pending and for the purposes of the settlement of the application, to submit himself to one additional examination.

The suggestions seem to us to be quite reasonable and satisfactory.

THE CHAIR OF PATHOLOGY, OXFORD.

THE electors have appointed Dr. George Dreyer to this newly founded and important chair at the University of Oxford. Dr. Dreyer is a lecturer on pathology in the University of Copenhagen, where he is chief assistant to Professor Salomonsen, and is well known for his able researches on bacteriology, pathological histology, and the complex problem of immunity. Those who were at the meeting of the pathological section of the British Medical Association at Oxford will remember the able part which he took in the discussion on immunity and will remember that he speaks English with great facility. Dr. Dreyer worked for some time with the late Sir John Burdon-Sanderson and is very well known to the younger Oxford men, a number of whom have carried on researches with him at Copenhagen. Dr. Dreyer is the son of Captain Dreyer of the Danish Navy and was born at Shanghai in 1873, and it is probable that his comparative youth, his other claims being very strong, helped to determine the issue of the election.

IN consequence of the death of Sir William Broadbent, senior consulting physician to St. Mary's Hospital, the presentation of prizes to the successful students of the medical school by Professor W. Osler, which had been arranged for Thursday, July 11th, was postponed.

THE distribution of prizes gained by the students and nursing probationers of the London Hospital and Medical College will be made by Mr. Hudson E. Kearley, M.P., on Wednesday, July 17th, at 3.30 P.M., in the library of the Medical College.

WE note with pleasure the grant of a Civil List Pension to Dr. Charles Creighton, the author of the "History of Epidemics in Britain."

A LOCAL Government Board inquiry was held at Bude on July 3rd into the application of the Stratton and Bude urban council to borrow £14,000 for sewage disposal.

DECENNIAL SUPPLEMENT FOR 1891-1900 TO THE SIXTY-FIFTH ANNUAL REPORT OF THE REGISTRAR-GENERAL.

PART II.

CONTINUING our notice of this report, certain portions of which were considered in THE LANCET of June 29th, we observe that the progress of sanitation is seriously impeded by reason of the overlapping and confusion of administrative areas which still unfortunately persist. There are now in this country about a dozen urban sanitary areas, including three county boroughs, which extend not only into more than one registration district but into more than one registration county as well. No organised attempt has hitherto been made to coördinate the Poor-law unions—on which the system of registration districts is founded—and the urban and rural districts, which are the units of area for sanitary purposes. Such coördination is doubtless hindered by practical difficulties, but its advantages are so great and so obvious that Dr. Tatham rightly protests against indefinite delay in attempting to secure it.

Ever since the passing of the first Public Health Act a steady growth of public interest has been maintained in the cause of sanitary reform, the progress of which has doubtless been encouraged by the popular, though erroneous, belief that the reports of the Registrar-General furnish an accurate and sufficient measure of the health of every administrative area in England and Wales, as well as the means of testing the effect of works undertaken from time to time for the improvement of local sanitary conditions.

In his previous decennial supplement Dr. Tatham expressed regret that although since the year 1847 particulars of mortality had been published decennially with respect to the causes of death in each of more than 600 registration districts, nevertheless this elaborate series of tables could seldom be utilised for purposes of public health administration because of the overlapping of areas above referred to. At the end of the year 1906 the number of urban districts in England and Wales was 1166 and yet only 149 of these were co-extensive with the registration areas to which alone these statistics relate.

For the purpose of comparing English mortality in the urban with that in the rural districts for the decennial period 1881-90 the urban area was represented by the 78 largest towns and the rural area by the remainder of England and Wales, the death-rates in these areas being approximately corrected by the indirect method employed in the annual summary when the local death-rates at the several age-groups are not known. For the present report the mortality has been calculated on an improved method for every registration district and every registration county of England and Wales. In order to emphasise the great differences still obtaining between the mortality of the towns and that of the country a selection has been made from among the English and Welsh counties showing in one group the counties which are mainly urban in character, containing the chief centres of industry, and in another group the counties which are mainly rural in character—the latter group contrasting strongly in this respect with the former. As the urban area contains a population of 16,500,000 and the rural area a population of 4,250,000, we see that urban and rural England are fairly represented by the selections made. For these areas respectively the death-rates in 1891-1900 have been corrected for age differences of population, and the results of this correction are illustrated in a table inserted in the report. From this table we learn that while the crude (i.e., the uncorrected) death-rates show a difference of only 2·46 per 1000 as between the urban and rural areas, the corrected rates show a difference of not less than 5·46 per 1000.

That local differences of mortality are in some way related to varying degrees of density of population is matter of common knowledge. For the national statistics prove that the areas with the highest death-rates are, as a rule, the densely populated industrial centres, while the sparsely peopled rural districts show almost invariably the lowest death-rates. The late Dr. William Farr devised a formula showing approximately the relation subsisting in 1861-70 between density and mortality in the districts of England and Wales. But in these days the relations existing have become too complex to admit of expression by any known formula. That mortality does still increase as density increases is shown by tables in the report, but this increase may with much probability be accounted for by other factors directly due to excessive overcrowding rather than by increased density *per se*. In this connexion it may be mentioned that whilst the mean density of the English population rose from 471 persons to the square mile in 1881-90 to 525 persons in 1891-1900, the death-rate fell from 18·73 per 1000 living to 18·19 per 1000.

Recent statistics show that whilst in 1881-90 no English district had a corrected death rate below 12 per 1000, in the following decennium there were 27 districts in which the mortality fell below that limit. The number of districts with rates between 12 and 13 per 1000 rose from 33 in the former decennium to 112 in the latter. Altogether, in the first-mentioned period there were 417 districts, with 9,000,000 inhabitants, that had corrected death-rates below 17 per 1000, as against 461 districts, with 12,000,000 inhabitants, in the period last mentioned. At the opposite end of the scale there were in 1881-90 not fewer than 41 districts, containing 5,500,000 people, that experienced death-rates above 23 per 1000, whereas in 1891-1900 the number of districts thus heavily rated did not exceed 20.

The proportion of deaths registered as uncertified varies enormously in different parts of the country. In Herefordshire the proportion in 1891-1900 was 5·2 per cent. of the total deaths, and in North Wales it was 4·8 per cent. On the other hand, the percentage did not exceed one in Middlesex, Wiltshire, or Monmouthshire. In relation to this subject attention is drawn to the fact that in many cases inquests are held on the bodies of persons who had been actually under medical care at the time of death. Such deaths are placed under the head of "inquest cases," and are excluded from the list of deaths medically certified. In many instances medical evidence is undoubtedly given at the inquest; but except in cases where a necropsy has been made there are no means of ascertaining whether or not medical evidence has been given. The medical evidence concerning the cause of death is often obscured by the manner in which the verdicts of coroners' juries are worded and consequently this information is lost for purposes of vital statistics. It is much to be regretted, writes Dr. Tatham, that the trustworthiness of the national registers should be thus impaired, for a large share of the time of the Registrar-General's official staff is occupied in the endeavour to maintain the efficiency of registration.

In the year 1881 a useful system of confidential inquiry was established for ascertaining the true cause of death in the large number of instances in which the cause had been certified so vaguely as to be useless for purposes of classification. The gradually increasing work of the statistical department has hindered the full development of this system; nevertheless, in the decennium ended 1900 more than 39,000 answers were received to letters addressed to medical practitioners as compared with 22,000 in the preceding decennium. In this connexion Dr. Tatham very gratefully acknowledges a substantial improvement in recent years, both in the character of the original medical certificates examined by him and in the value of the replies to his inquiries respecting doubtful cases. As a result of these inquiries there were added to the total mortality from puerperal sepsis and accidents of childbirth 2050 deaths, of which 932 had originally been certified as from peritonitis, 510 as from pyæmia or septicæmia, 151 from metritis, 178 from pelvic cellulitis, and 117 from hæmorrhage, in all these instances without mention of the puerperal condition. The deaths from cancer or malignant disease were increased by 6252, of which 5255 had been returned as from tumour, 574 as from stricture of the œsophagus, 42 as from hæmorrhage, 30 as from dyspepsia, and 22 as from atrophy, whilst 70 had been indefinitely returned as from surgical diseases. The deaths from tuberculous diseases were increased by 1344, of which 717 had originally been certified as from tumour, 193 as from peritonitis, 124 as from atrophy, 52 as from pyæmia or septicæmia, and 36 as from surgical causes. It should be mentioned that with every one of the aforesaid letters of inquiry a circular is inclosed, containing a new list of diseases based on the recently issued nomenclature of the Royal College of Physicians of London, so that medical practitioners have ready at hand the latest official information respecting the classification of causes of death.

(To be concluded.)

MIDDLESEX HOSPITAL CANCER RESEARCH LABORATORIES: SIXTH REPORT.

THE laboratories which have been established in connexion with the cancer wards of the Middlesex Hospital are carrying out many important investigations concerning malignant disease, and this, the sixth, report contains quite as much that is worthy of notice as any of its predecessors. While all the papers contained in it are valuable some of them are naturally of more interest than others. With the paper on the trypsin treatment of cancer we hope to deal next week.

Dr. Archibald Leitch has been working on the question of the presence of micrococci in tumours. Rapin in 1887 first described micrococci in carcinomata and Motz discovered them in sarcomata in 1894. In 1904 Doyen reported that a special micrococcus was to be found in tumours both malignant and simple. Metchnikoff has confirmed these observations and Dr. Leitch's paper is an account of the attempts which he has made to isolate this particular micro-organism from new growths. In all 33 tumours were examined; of these 15 were unulcerated mammary carcinomata; three were cases of carcinomata which were either ulcerated or which had been on an exposed surface; three specimens were sarcomata; four were simple tumours, two of them fibro-adenomata of the breast and two fibro-myomata of the uterus; and eight of the specimens were taken from animals, one being a breast carcinoma, two were tumours containing cartilage, one was an enlarged lymphatic gland, one a breaking-down granuloma, and three were transplanted tumours from mice. It will be seen that there was great variety in the tumours examined. Great care was taken that no infection of the tumours took place from without and culture tubes were inoculated. From these tubes a micro-organism was obtained, which was definitely a staphylococcus without any very special characters—at least, its characters are not sufficient to specify it. It was found in a very large proportion of the specimens examined, and except in the ulcerated or surface-exposed tumours it was a nearly pure growth. The real point of importance is that a coccus of certain characters is found in neoplasms. The question of the relation of this micrococcus to the new growth is entirely another matter. At present it can only be said that in a very large proportion of tumours, both innocent and malignant, a special micrococcus exists.

Dr. J. J. Douglas, working in the Middlesex Hospital Cancer Research Laboratory, showed three years ago that the blood of patients suffering from cancer has a lower specific gravity than the blood of normal individuals, the average difference being 0·007. Mr. C. W. Rowntree in the present report records some observations which he has made as to the difference of the specific gravity of the solid tissues in the bodies of cancerous patients and of those dying from other causes. The method employed was devised by Dr. W. S. Lazarus-Barlow. It consists in having layers of a watery solution of gum arabic with a little formalin to prevent the growth of moulds. The layers, which contain more or less gum, have different specific gravities and have very little tendency to mix, and to distinguish them alternate layers are stained with methylene blue. There is a difference of 0·002 in specific gravity between adjoining layers. A small piece of tissue is snipped off with sharp scissors, care being taken to bruise it as little as possible in order that the tissue fluids shall not be squeezed out. The piece of tissue is then placed in the uppermost layer of a series of gum solutions; it sinks rapidly at first and then more slowly until at last it comes to rest in the layer which has the same specific gravity as itself. The chief differences were found to exist in the case of spleen and voluntary muscle. Each of these tissues was found to have diminished about 0·003 in specific gravity. Mr. Rowntree comes to the conclusion that this reduction in specific gravity in cancerous cases depends not upon any specific change in the tissues themselves but upon the changes in the blood which have been shown to be present in carcinoma of all forms.

Dr. Victor Bonney, who is the Walter Emden Research Scholar, contributes a valuable paper on the connective tissues in squamous-cell carcinoma and in leukoplakia. He finds that in the earlier or more acute stages of leukoplakia there are large numbers of lymphocytes in the sub-epithelial tissue, especially at the tips of the interpapillary downgrowths of the epithelium, but their distribution is somewhat irregular. These lymphocytes invade the epithelium, intercalating themselves between the individual epithelial cells, especially in the Malpighian layer. In quiescent states the lymphocytes disappear. In squamous-cell carcinoma the lymphocyte is still more prominent, but its distribution is similar to that found in leukoplakia. Dr. Bonney does not think that these lymphocytes are derived from the pre-existing connective-tissue cells, as division by mitosis or amitosis is never to be observed in them. He considers that they are brought to the spot by the lymphatic capillaries. As to what happens to them he is in more doubt; certainly they take no part in the formation of the stroma of the growth. He thinks that the lymphocytes are pushed back by the advancing epithelial cells. In the acute stages of leukoplakia and in squamous-cell carcinoma Dr. Bonney finds plasma cells present in great numbers, mixed with the lymphocytes. The plasma cells proliferate, chiefly amitotically, but the proliferation is best seen at a little distance from the epithelial cells. He is unable to suggest any very likely source for the plasma cells, but he feels sure that a local proliferation is responsible for the great number present, for delicate processes unite them to other plasma cells and therefore it is very improbable that they have been brought to the affected spot. The plasma cells probably become fibrous tissue cells and the dense fibrous tissue is probably largely due to the deposition of collagenous material around a framework of elongated plasma cells and fibroglia fibres. Dr. Bonney thinks that the fixed connective-tissue cells play an unimportant part in the tissue reaction accompanying leukoplakia and squamous-cell carcinoma, though it is possible that they give rise to plasma cells. The other chief changes seen in the invaded tissues affect the fibrous tissue. There is a disappearance of much of the collagenous matrix; this rarefaction is mainly due to the plasma cells, which by their proliferation produce rifts in the homogeneous collagenous matrix. This occurs at some little distance in advance of the epithelial downgrowths. Both in leukoplakia and in squamous-cell carcinoma there is an early and permanent disappearance of the yellow elastic tissue. These histological results are of great importance and increase our knowledge greatly of the changes occurring in the tissues invaded by leukoplakia and by carcinoma.

Dr. Lazarus-Barlow has contributed a very elaborate paper on the Retardation of Electroscopic Leak by means of recognised radio-active and certain other substances which have been supposed to bear a causal relationship to definite varieties of cancer. The paper is based on an enormous number of experiments and we have only space for the chief conclusions. An aluminium disc which has been placed in proximity to a recognised radio-active substance has acquired a retarding action on the leak of an electroscope, and this is independent of the character of the electricity with which the gold leaves are charged. He has also shown that cholesterin, gall-stone, and paraffin wax have a similar effect, but pipe-clay accelerates the leak.

Dr. Lazarus-Barlow and Mr. Cecil R. C. Lyster have also made observations on electroscopic leak in the presence of aluminium and glass plates that have been exposed to x rays. They conclude that there is no alteration in the rate of leak.

We have given the substance of the chief papers in this report in order to show the importance of the investigations which are being carried out in these laboratories. The exact relation of many of these observations to the production or extension of cancer may not be obvious, but the more we learn about cancerous processes the more we are likely to become acquainted with the true etiology of malignant disease.

THE CUMBERLAND INFIRMARY.—The sixty-sixth annual report of the Cumberland Infirmary shows that that institution is in a prosperous condition, the debit balance on the general account having been reduced to £179, whilst the capital account received an addition in legacies during last year of £1624. 1127 in-patients and 2540 out-patients were treated; the cost per bed per day has been reduced from 3*s*. 3¾*d*. to 3*s*. 0½*d*. It is proposed to institute an ophthalmic department of the infirmary and two surgeons are to be appointed to it. The vacancy in the presidency of the infirmary caused by the death of the late Sir Wilfrid Lawson, Bart., has been filled by the election to the post of the Right Rev. the Lord Bishop of Carlisle.

THE PAYMENT OF MEDICAL MEN SUMMONED BY MIDWIVES TO THEIR ASSISTANCE.

THE attention of medical men has frequently been called to the grave defect in the working of the Midwives Act of 1902, caused by the fact that although a midwife is bound by the Act to summon a medical man to take charge of a case of difficult labour, yet no provision is made under the Act for the payment of his services. In cases of poverty, where the patient is entitled to charitable relief, the difficulty has not been so serious, but in many instances medical men have attended knowing full well that no fee would be recoverable and have given their services as charity with the knowledge that if they failed to do so they would risk public censure for heartlessness. Certain boroughs, such as Liverpool and Cardiff, have adopted schemes by which, in some circumstances, the borough became responsible for the fees due; in this they have more freedom than the county councils the accounts of which are under strict central control. The latter have only been able to suggest that medical men should seek to recover from local boards of guardians, a very feeble guarantee of repayment. The latest council to take action is that of the borough of St. Helens which has adopted the scheme which we print below, the power for which it finds under Section 133 of the Public Health Act:—

The council of the county borough of St. Helens is prepared to make certain payments to medical practitioners called in under Section E 18 and E 19 of the rules framed by the Central Midwives Board, under Section 3, I., of the Midwives Act, 1902. (2 Edw. 7.c.17.) These payments will be made only on the written application of the medical practitioner after consideration and investigation by the health committee of the council. In determining which cases shall come under this scheme the health committee will take into consideration: 1. Nature of case. 2. Inability of medical man to recover his fee.

1. *Nature of the case.*—The expenses of medical attendance will be paid only when there is great urgency, and under Section E the cases of urgency will include: 19 (1) The whole sub-section; 19 (2,b when there is loss of blood; 19 (3· the whole sub-section; 19 (4) secondary post-partum hæmorrhage; 19 (5) dangerous feebleness of the child; but all other cases when there is undoubted urgency and danger to either mother or child shall be included whether mentioned in the foregoing list or not.

2. *Inability of medical man to recover his fee.*—The medical man is required to take reasonable means to secure his fee before applying to the health committee. The fee will be paid only on the written declaration of the medical attendant that he has been unable to obtain the whole or any part of it from the patient, and shall be wholly or partly repayable by the medical attendant to the council if subsequently whole or part payment be made by or on behalf of the patient. The medical attendant shall also be required to give a description of the case, and the treatment adopted, on a prescribed form. (Copy attached.) The fee for attendance on all cases of urgency and danger to either the mother or the child shall be on the scale of 5s. for a visit, or £1 1s. when operative interference is required and has been carried out. The fees are not cumulative and the fee in any one case shall not exceed 5s. when operative interference is not required and £1 1s. when an operation has been required and carried out. Any claim for an additional fee must be made in writing, and will be considered by the health committee on its merits. Nothing in this scheme shall be held to bind the health committee or the council to pay the fees of any medical attendant in cases which they, after investigation, shall for any reason whatsoever deem unsuitable. The health committee reserve to themselves the right of withdrawing or amending the scheme. W. H. ANDREW, Town Clerk.

Town Hall, St. Helens, June 5th, 1907.

The following is the form that must be filled up and returned to the council by the medical man who makes the claim.

THE MIDWIVES ACT, 1902.

To the Health Committee of the County Borough of St. Helens.

I hereby certify that on.....

at..... P.M. / A.M. I was called in at the instance of a midwife .....

to attend.....at .....

The reason given on the paper furnished by the midwife for calling me in was.....

The case was one of urgency and I found the following conditions requiring medical assistance:—.....

.....

The treatment which I adopted was briefly as follows:— .....

.....

.....

I hereby declare that I have failed to obtain my fee in whole or part for this attendance, and that I have taken reasonable means to secure it. I further undertake to refund to the council any payment made to me with respect to this attendance, should whole or part payment be made to me by or on behalf of the patient.

.....

Address.....

Date.....

This form duly filled up and signed by the medical practitioner must be sent to the Medical Officer of Health, Town Hall, St. Helens, within six months of the date of the attendance.

THE HAMPSTEAD GENERAL HOSPITAL.

RECENT events in connexion with the constitution of the staff at the Hampstead General Hospital have led to a situation that threatens to become almost an *impasse* and as they involve principles of the greatest importance to all suburban hospitals and to medical men a short statement of the facts will be useful.

The Hampstead Hospital was founded in 1882 as a small nursing institute, with the title of the Hampstead Home Hospital. The late Dr. Heath Strange associated with himself several local medical men as a staff and until his recent death took the greatest interest in the affairs of the institution. There were no free beds until 1893, when a few were added, and three years later an out-patient department was started which was the first step that brought on the institution the criticism of practitioners in the neighbourhood who were not on the staff. In 1905 the hospital was moved into a fine new building that had been erected on Haverstock-hill with 64 beds but the move had not the cordial support of the local profession, many of the members of which consider that Hampstead does not require so large a hospital. In spite of this feeling the council of the hospital—as the board of management is styled—during 1906 proceeded with the erection of two new wings, which was made possible by a donation of £20,000 from Sir Henry Harben, and one of £5000 from King Edward's Hospital Fund for London, and new out-patient buildings were also erected. The hospital is administered by the council, on which all the six members of the medical staff have seats, although of course the lay representation has a strong majority. The staff consists of four medical officers and two assistant medical officers, all of whom are local practitioners and make no claim to what is generally known as a purely "consultant" practice. It must be said at once that on all sides it is admitted that these gentlemen carry out their duties in an exceedingly efficient and skilful manner and the question at issue is one of principle entirely and not of personality. Up to the present time they have had exclusive charge of the free beds and the out-patients but have shared the right of treating their own private cases in the dozen or so paying beds with any other practitioner who chooses to apply for such a bed in which to treat a private case, preference being given to patients coming from Hampstead, Highgate, Hendon, or the neighbourhood. The new wings when open will give a total accommodation of about 110 beds and the number of paying beds will be increased.

It is about the free beds that the chief trouble is centred. When the hospital was moved to its present site a good deal of local feeling arose on several counts; one was that the staff derived an undue local prestige from their official position, but the chief trouble was the hostility of the local profession against the out-patient department. During May, 1906, the local branch of the British Medical Association convened a meeting of neighbouring practitioners who carried the following motions and a committee was formed to promote their enforcement:—

1. That an out-patient department in Hampstead is unnecessary.
2. That the casualty department be kept distinct from any other department and that casualty patients, if not suitable for admission, be seen once, and thereon be referred to private practitioners, provident dispensaries, or Poor-law authorities.
3. That there be greater facilities for general practitioners of the neighbourhood to attend in-patients.
4. That there should be a service limit, as well as an age limit, to appointments to the medical staff.
5. That the outside medical profession be adequately represented on the board.
6. That it is desirable, both in the interest of the district and of the hospital itself, that the Hampstead Hospital be carried on as a purely local institution, and not as a large general hospital, and that therefore an acting staff of consultants is not in accordance with the spirit of its constitution.

These were forwarded to the council of the hospital but they did not receive the support of the hospital staff and they cannot be said in themselves to have carried much weight. Neither can the indefinite expression of opinion in answer to a circular sent out by the council to the local profession asking for an expression of opinion on the constitution of the staff be said to have influenced the result materially. It will be seen that the last resolution deals with the introduction of a staff of consultants, and it is over that point that the present critical position has arisen; it is the point that makes the situation a test-case for

similar hospitals. Up to the present there have been a few consultant members of professional eminence on the Hampstead staff, but their office has been just as much of a sinecure as that of a consultant member of the staff of any London general hospital. The King Edward's Hospital Fund for London had intimated to the council of the hospital when it attained its present importance that it would be well advised to change the constitution of its staff from local practitioners to "consultants," although it is noteworthy that the Fund has never committed itself to the definition of a consultant. During 1906 the council considered the matter and it was this event that brought about the meeting and resolutions to which we have referred above. The council appointed a special committee to consider the subject, which reported on February last "that this committee is of opinion that it is desirable to appoint a staff of four consultants of high standing (two surgeons and two physicians), but that under the special circumstances of the Hampstead General Hospital it is important to retain the coöperation on the medical staff of medical men residing in the neighbourhood of the hospital." At the end of last year matters were hurried on by a new factor. The North-West London Hospital was in such severe financial difficulties that it was suggested to close it. The King's Fund, however, took the matter in hand and proposed to the Hampstead Hospital that they should amalgamate and carry on their out-patients department at the North-West London Hospital, where there had been an out-patient practice of about 123,000 a year, whilst the Hampstead attendances of out-patients did not much exceed 21,300. The Fund promised the Hampstead Hospital £1500 a year and other benefits resulting from the amalgamation, but the offer was absolutely conditional on the replacement of the staff by the undefined "consultants" and the inclusion of certain members of the North-West London Hospital staff. After much negotiation the Fund agreed to retain the present medical officers for a period of 18 years from the time of their original election, giving them terms of from five to seven years to run, but it would not agree to the subsequent promotion of the assistant medical officers, although one of these gentlemen holds the Fellowship of the Royal College of Surgeons of England. In fact, it laid down the absolute rule that in future the staff must be "consultants" and not local practitioners, however capable these may be. The hospital council, without referring the matter of amalgamation or staff constitution to the general body of governors, has accepted the terms, including the appointment of three members of the North-West London Hospital staff. The condition precluding the present assistant officers from promotion was the last concession made to the King's Fund and was only carried by one vote, and subsequent events have proved that the council was divided on many points. Meanwhile the local profession as represented by the British Medical Association had been active; a conference was held between its 1906 committee and members of the staffs of the two hospitals concerned, where it was agreed that there was no objection to amalgamation under certain very clear conditions regulating the out-patients and insuring a good local professional representation on the staff and the committee. A meeting of the profession was convened on May 24th to consider these recommendations and so far from supporting them unanimously a motion that the amalgamation was undesirable was only lost by the casting vote of the chairman. At this time the staff of the hospital were trying to support their council as far as they reasonably could in a most trying and delicate position and the local profession were handicapped in their endeavours by not having the staff with them. When, however, the council made its final surrender to the King's Fund the staff decided to make common cause with their outside brethren and at a well-attended professional meeting on July 3rd, under the auspices of the local branch of the British Medical Association, Dr. E. Collingwood Andrews on behalf of the staff rehearsed the position and announced that his colleagues and he had decided to support the motion before the meeting:—

> That this meeting considers the Hampstead General Hospital should always have a staff of local practitioners, and in consideration of this opinion calls upon the members of the medical profession to refuse to accept any office on the staff on terms which are not considered satisfactory by the local profession.

He, moreover, announced that a special meeting of governors and subscribers of the hospital had been convened for July 16th who would be asked to rescind the council's decision and to vote for the continuance of an acting staff of local men with an increased consulting staff. Dr. Andrews, it is suggested, minimised the financial support brought by the North-West London Hospital to the amalgamation scheme, but though an important matter it does not affect the position brought about by the proposals. If these are not carried the staff will resign in a body; if they are carried it appears that the amalgamation scheme will fall to the ground, but we understand that the hospital will not thereby lose the support of the King's Fund. The meeting received the attitude of the staff very favourably, although one or two gentlemen tried to confuse the issue with the out-patient controversy. The resolution was carried *nemine contradicente* and there the matter rests until the meeting of hospital governors has been held. We have only had space to indicate the outline of the matter and shall acquaint our readers with the issue in due course. It is impossible to foretell what this may be as the situation is one of extreme difficulty. There is no doubt, however, that the local profession has had its influence greatly strengthened by the support of the hospital staff. We trust that the governors at the approaching meeting will not be swayed by personal considerations but will record their decision in what they conceive to be the true interests of the hospital's welfare.

MEDICINE AND THE LAW.

Attempted Suicide and the Police at Chelmsford.

A CURIOUS and unaccountable attitude appears to have been adopted by the police authorities at Chelmsford, according to the evidence given at an inquest held there recently. The deceased, a carpenter, had become insane and had cut his throat in the street. He was taken by the police while still alive to the Chelmsford Infirmary and was there attended to, but was not allowed to remain as an in-patient because the police authorities at Chelmsford refuse to permit a constable to remain in the infirmary in charge of a person who has attempted suicide and the authorities of the Chelmsford Infirmary naturally and rightly decline to entertain such patients without police assistance. On the occasion in question the deceased, after receiving surgical aid at the infirmary, was taken by the police to the workhouse infirmary, but there he was refused admission, equally rightly, because he was not a proper subject for poor relief. A medical man who appears to have been summoned to attend him at his home found that his condition required that he should be treated in a hospital, and interesting himself vigorously in the matter persuaded the guardians to stretch a point and to allow him to be admitted to the workhouse infirmary. The guardians passed a special resolution that he should be taken in, but an hour after his arrival he died. The jury at the inquest had before them correspondence between the infirmary board and the police which passed in 1904, in which the board intimated that it could not undertake the care of those who had attempted to commit suicide without the assistance of the police, to which the chief constable had replied that he could not instruct the police not to take a patient whose life was in danger to the infirmary if that was the nearest available place, but that it would be detrimental to the public service to allow his men to remain there. They had also evidence to the effect that the institution had no male attendants to take care of such cases as that described and that would-be suicides were admitted to London hospitals only because the police always remained in charge of persons for whose safety they were directly responsible. In reply to this the deputy chief constable is reported to have made the statement that "there is no power to put the police in charge." The jury at the conclusion of the inquest returned a verdict of suicide during temporary insanity, with a rider that the guardians should have been notified of the correspondence between the police and the infirmary, that the guardians were greatly to blame, and that the relieving officer was not to blame as he had only done his duty. Such censure seems to be undeserved and misplaced. The guardians of the union appear to have acted with humanity and to have done their best for the deceased when they were fully informed that his life was in danger, although, strictly speaking, he would not in other circumstances have constituted a case for treatment under

the Poor-law. The cause of the delay in placing this unfortunate man where he could best be taken care of seems to have been due to the attitude of the police, which must surely be unusual. It is their duty to remain in charge of a person who is in their custody in consequence of the crime he has committed in attempting to take his own life and it is equally their duty to afford him the best chance possible of having his life saved. A visit to a few of the London hospitals would soon convince the police of Chelmsford that there is "power to put the police in charge," and that it is very frequently done in the metropolis, where the Home Office would quickly interfere if such a course were a wrong one to adopt and detrimental to the public service. Even with a constable remaining present to render assistance if needed the desirability of admitting an insane patient must be one for the consideration of the hospital committee, to be determined according to the patient's condition. Without such assistance it would be wrong for the hospital to undertake a responsibility to a large extent outside its province.

Parental Liability.

The *Journal of the American Medical Association* records an interesting case in regard to the liability for fees incurred by a parent who had requisitioned the extraordinary services of a medical man on behalf of his adult son. The plaintiff sued for $16,000 as a reasonable remuneration for having been in constant and exclusive attendance on the defendant's son for 40 days before his death. He had been summoned for this purpose by an urgent telegram from the father, which the plaintiff contended constituted an implied contract of liability for reasonable fees. The defence was that from $4000 to $6000 was an ample fee for the services rendered. The plaintiff secured a verdict for $12,666. The defendant, however, moved for a new trial on the ground of error in the instructions and that the verdict was excessive, and this was sustained by the trial court. The Supreme Court has affirmed this order. The decision was embodied in a lengthy judgment which affirmed, *inter alia*, that the jury had been wrongly instructed when told to take into consideration the defendant's wealth and the plaintiff's general professional reputation when assessing the award.

Looking Back.

FROM

THE LANCET, *SATURDAY*, July 11th, 1829.

REMUNERATION TO MEDICAL WITNESSES.

To the Editor of THE LANCET.

SIR,—Can you or any of your numerous readers inform me, whether a regularly educated medical man, a member of the College, &c., who is called to the case of a drowned person, uses every means to restore to life the said drowned person, and afterwards is obliged to attend the inquest upon the body; whether this medical man is not entitled by law to some remuneration? In asking the question, I speak feelingly, having been called to several cases of this kind, and, indeed, I was called up in the middle of the night to one, only the early part of this week.

I remain, Sir,
Your obedient servant,

6, London Terrace, Hackney Road, June 27th, 1829. HORATIO COLLMAN.

Such is the disgraceful state of the law regarding the medical profession, that a medical man, thus circumstanced, cannot legally recover compensation for his time and trouble!—ED. L.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 8255 births and 3853 deaths were registered during the week ending July 6th. The annual rate of mortality, which in the successive weeks of last quarter had declined uninterruptedly from 17·9 to 12·5 per 1000, was again 12·5 in the week under notice. During the 13 weeks ending June 29th the death-rate in these towns averaged 15·1, the rate in London during the same period being 14·6. The lowest rates last week in the 76 towns were 4·1 in Walthamstow, 5·2 in Hornsey, 6·0 in Northampton, and 6·2 in King's Norton; the highest rates were 18·4 in Sunderland, 18·5 in Bolton, 18·6 in Bury, 18·9 in Blackburn, 19·6 in Burnley, and 20·0 in Middlesbrough. The 3853 deaths in the 76 towns were seven in excess of the number in the preceding week and included 366 which were referred to the principal epidemic diseases, against 430, 365, and 427 in the three preceding weeks; of these, 130 resulted from measles, 109 from whooping-cough, 47 from diarrhœa, 41 from diphtheria, 32 from scarlet fever, and seven from "fever" (principally enteric), but not any from small-pox. No death from any of these epidemic diseases was registered in Willesden, Southampton, Plymouth, Northampton, Devonport, or in ten other of the 76 towns; the annual rates from these diseases, however, ranged upwards to 3·1 in Blackburn, 3·3 in Derby, 3·7 in Bolton, 5·3 in Wigan, and 5·4 in Walsall The 130 fatal cases of measles showed a decline of 28 from the number in the previous week, the highest annual rates therefrom being 1·8 in Hull, 2·3 in Bolton, 2·5 in Derby, 3·5 in Wigan, and 4·9 in Walsall. The 109 deaths from whooping-cough were 27 fewer than the number in the preceding week, the death-rates from this disease ranging upwards to 1·0 in Leeds, 1·1 in Bolton, 1·4 in Merthyr Tydfil, 1·8 in Wigan and in Bury, and 1·9 in Tynemouth. The fatal cases of diarrhœa, which had been 50, 53, and 51 in the three preceding weeks, declined to 47 in the week under notice. The 41 deaths from diphtheria exceeded by 11 the number in the preceding week, the greatest proportional mortality from this disease being recorded in Huddersfield. The deaths from scarlet fever, which had been 32 and 40 in the two preceding weeks, declined again last week to 32. The seven fatal cases of "fever" included two in Liverpool and two in Burnley. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had been 2936, 2985, and 3022 at the end of the three preceding weeks, had further risen to 3193 at the end of last week; 504 new cases were admitted during the week, against 389, 414, and 422 in the three preceding weeks. The deaths in London referred to pneumonia and other diseases of the respiratory organs, which had been 156 in each of the two preceding weeks, declined last week to 148, but were 18 in excess of the corrected average number in the corresponding week of the previous five years. The causes of 31, or 0·8 per cent., of the deaths registered in the 76 towns during the week were not certified, either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Leeds, Bristol, West Ham, Newcastle-on-Tyne, Hull, and in 56 other of the 76 towns; the proportion of uncertified deaths, however, showed a marked excess in Liverpool, Birmingham, Sheffield, Gateshead, and St. Helens.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been equal to 17·3 and 15·0 per 1000 in the two preceding weeks, further declined to 14·5 in the week ending July 6th, but was 2·0 per 1000 in excess of the mean rate during the same period in the 76 large English towns. The rates in the eight Scotch towns ranged from 10·2 in Greenock and 11·7 in Aberdeen to 15·3 in Glasgow and 19·3 in Leith. The 504 deaths in the eight towns showed a decline of 18 from the number in the preceding week, and included 59 which were referred to the principal epidemic diseases, against 84 and 76 in the two preceding weeks. These 59 deaths were equal to an annual rate of 1·7 per 1000, which exceeded by 0·5 per 1000 the rate from the principal epidemic diseases in the 76 English towns; they included 18 which were referred to whooping-cough, 18 to "fever," 10 to diarrhœa, six to diphtheria, five to measles, and two to scarlet fever, but not any to small-pox. The deaths from whooping-cough, which had declined from 57 to 34 in the four preceding weeks, further fell last week to 18, of which ten occurred in Glasgow, three in Edinburgh, three in Dundee, and two in Aberdeen. The fatal cases of "fever," which had been 14 and 21 in the two previous weeks, declined again to 18 last week, and included ten of cerebro-spinal meningitis in Glasgow, three in Edinburgh, and three in Leith. The deaths from diarrhœa, which had been 23 and 13 in the two preceding weeks, further fell last week to ten, of which six were registered in Glasgow and two in

Leith. The six fatal cases of diphtheria showed an excess of three over the number in the previous week, and included four in Glasgow, where the five deaths from measles also were recorded. The deaths in the eight towns referred to diseases of the respiratory organs, including pneumonia, which had declined from 106 to 72 in the four preceding weeks, rose again last week to 80, and exceeded by 28 the number in the corresponding period of last year. The causes of 24, or 4·8 per cent., of the deaths registered in the eight towns during the week were not certified or not stated; in the 76 English towns the proportion of uncertified deaths did not exceed 0·8 per cent.

HEALTH OF DUBLIN.

The annual rate of mortality in Dublin, which had been 24·3, 20·8, and 19·5 per 1000 in the three preceding weeks, further declined to 18·3 per 1000 in the week ending July 6th. During the 13 weeks ending June 29th the death-rate averaged 25·4 per 1000, the rates during the same period being 14·6 in London and 17·1 in Edinburgh. The 137 deaths of Dublin residents registered during the week showed a decline of nine from the number in the previous week, and included 19 which were referred to the principal epidemic diseases, against 19 and 11 in the two preceding weeks; of these, nine resulted from whooping-cough, six from measles, two from scarlet fever, one from diphtheria, and one from "fever," but not any from small-pox or from diarrhœa. These 19 deaths were equal to an annual rate of 2·5 per 1000, the death-rate last week from the principal epidemic diseases being 1·1 in London and 0·5 in Edinburgh. The deaths from whooping-cough, which had been five and eight in the two preceding weeks, further rose last week to nine; while the deaths from measles numbered six, against three, nine, and one in the three previous weeks. The 137 deaths from all causes in Dublin last week included 24 of children under one year of age and 32 of persons aged upwards of 60 years; the deaths of infants were equal to the number in the preceding week, while those of elderly persons were slightly in excess. Four inquest cases and four deaths from violence were registered; and 59, or 43 per cent., of the deaths occurred in public institutions. The cause of one death in Dublin last week was not certified; in London also only one death was uncertified; while in Edinburgh the proportion was 5·5 per cent. of the total deaths. The 144 deaths in Belfast last week included five which were referred to cerebro-spinal fever or cerebro-spinal meningitis.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Fleet Surgeon: C. M. Beadnell to the *President*, additional, for three months' course at West London Hospital. Surgeon: M. J. Laffan to the *Speedwell*, lent, temporary.

ROYAL ARMY MEDICAL CORPS.

The notification regarding the retirement on retired pay of Lieutenant-Colonel John L. Hall, which appeared in the *Gazette* of June 7th, 1907, is cancelled.

ROYAL ARMY MEDICAL CORPS (MILITIA).

Thomas Price Thomas to be Lieutenant (dated June 18th, 1907).

VOLUNTEER CORPS.

Royal Garrison Artillery (Volunteers): 2nd Durham (Seaham): Surgeon-Major David Todd, from the 1st Durham Royal Garrison Artillery (Volunteers), to be Surgeon-Major (dated May 29th, 1907).

Rifle: 3rd Volunteer Battalion, The Prince Albert's (Somersetshire Light Infantry): Surgeon-Lieutenant P. G. McReddie resigns his commission (dated June 4th, 1907). 2nd (Angus) Volunteer Battalion, The Black Watch (Royal Highlanders): Supernumerary Surgeon-Lieutenant-Colonel J. K. Anderson (Brigade-Surgeon-Lieutenant-Colonel, Senior Medical Officer, Black Watch Volunteer Infantry Brigade), is granted the honorary rank of Surgeon-Colonel (dated June 6th, 1907).

NAVAL MEDICAL SUPPLEMENTAL FUND.

At the quarterly meeting of the directors of the Naval Medical Supplemental Fund held on July 9th, Sir Inigo Thomas in the chair, the sum of £60 was distributed among the several applicants.

EXAMINATION OF MAJORS OF THE ROYAL ARMY MEDICAL CORPS FOR PROMOTION.

The subjects selected for the year 1908 for the examination of Majors, R.A.M.C., for promotion to the rank of Lieutenant-Colonel are as follows: Subject 3 (*a*): The medical history of the more important campaigns and the lessons to be learnt therefrom; the medical history of the Afghan Campaign, with especial reference to the march from Cabul to Candahar; and the medical history of the advance of Lord Roberts to Bloemfontein. Books recommended: "Diary (Medical) of the March of the Field Force of Lieutenant-General Sir Frederick Roberts, V.C., G.C.B., from Cabul to Candahar" (Army Medical Department Report for 1879); "Special Report on the Hospital Organisation, Sanitation, and Medical History of the Wars in Afghanistan, 1878–79–80" (Army Medical Department Report for 1880); "Forty-one Years in India," by Lord Roberts, V.C., chapters 59–62 (thirty-fifth edition, 1902, Vol. II.); "Report on the Medical Arrangements in the South African War," by Surgeon-General Sir William D. Wilson, K.C.M.G., first 44 pages; "The *Times* History of the War in South Africa, 1899–1900," Vol. III., chapters 12 to 15 and chapter 17. Subject 3 (*b*)—A knowledge of the Army Medical Services of the more important Powers: The medical organisation of the French and Italian Armies, as described in the "Handbook of the Medical Organisations of Foreign Armies, 1902."

ROYAL ARMY MEDICAL CORPS IN INDIA.

Under the Indian commands reorganisation scheme it is ordered that: (*a*) The appointments of principal medical officer, personal assistant to the principal medical officer, sanitary officer, and staff officer, Army Bearer Corps, in each command, and of sanitary officer and staff officer, Army Bearer Corps, in the Secunderabad Division and Burma will be abolished. (*b*) The principal medical officers of the three divisions will be surgeon-generals, their pay being fixed at 2200 rupees per mensem, consolidated. (*c*) Two temporary administrative posts will be created, each to be held by a colonel—viz: one for the Allahabad and the second for the Secunderabad brigades, infantry and cavalry. (*d*) A colonel will be appointed deputy to the principal medical officer of His Majesty's forces in India, his pay being fixed at 1800 rupees a month, consolidated. (*e*) A sanitary officer will be appointed in each office of the nine divisions and in Burma, the staff pay being fixed at 300 rupees per mensem. (*f*) A staff officer for medical mobilisation stores will be appointed in each of the nine divisions (excluding Burma), the staff pay being fixed at 300 rupees per mensen. (*g*) Owing to the above changes the establishments of medical services in India will be reduced by a number of officers corresponding to the number of cadre appointments abolished. (*h*) Existing lady superintendents will, under the orders of the principal medical officer of His Majesty's forces in India, be distributed to the charge of four circles, as follows: First Circle, comprising Peshawur, Rawul Pindi, and Lahore Divisions; Second Circle, comprising Meerut and Lucknow Divisions; Third Circle, comprising Quetta, Mhow, and Poona Divisions; Fourth Circle, comprising Secunderabad Division and Burma. (*i*) Orders regarding the disposal of clerks and establishments of the medical division officers at command headquarters will be issued by the principal medical officer, His Majesty's forces in India.

WEST AFRICAN MEDICAL STAFF.—The first dinner of the West African Medical Staff took place on July 3rd at the Trocadéro Restaurant. There was a large attendance of medical officers, including Dr. W. T. Prout, C.M.G., late principal medical officer of Sierra Leone, who presided; Mr. W. H. Langley, C.M.G., principal medical officer of the Gold Coast; Mr. R. M. Forde, principal medical officer of Sierra Leone; Dr. Hood, principal medical officer of Gambia; Mr. E. Langley Hunt, C.M.G., and others. After the toast of "His Majesty the King" had been honoured, Dr. Prout proposed, "Success to the West African Medical Staff dinner and prosperity to the Staff," and briefly pointed out the advantages of such social gatherings in promoting a feeling of union and cohesion among the members of the staff. It was decided that a dinner should be held twice a year, the next one to take place on the last Wednesday of January, 1908.

Correspondence.

"Audi alteram partem."

THE MEDICAL SICKNESS AND ACCIDENT SOCIETY.

To the Editors of THE LANCET.

SIRS,—In 1884 it occurred to some medical men that the too frequent sending round of the hat on behalf of members of the profession who were incapacitated by illness or accident could best be obviated by the founding of a society formed for, and managed by, medical men only.

Accordingly the Medical Sickness and Accident Society was started. Membership was confined to registered medical men and licentiates of dental surgery practising in the United Kingdom. For an annual contribution, varying with the age of entry from about £6 at the age of 21 years to about double that amount at the age of 50 years, members secure a weekly allowance of £4 4*s.* while they are prevented by any kind of illness or accident from performing professional work. The full amount may be drawn for 26 weeks and after that half pay is allowed for any period of disablement right up to the age of 65 years. From the commencement the society has been a great success. Over 400 members joined at once in 1884 and the membership has grown until last year it amounted to 2488. The society was registered under the Friendly Societies Act and thus has no shareholders, so that all the funds belong to the members. The committee of management, selected by the members, give their services gratis, and in every way the society is worked with great economy. It has paid to its members over £100,000 in sickness claims and has now a reserve fund of over £200,000.

It would be difficult to estimate the amount of benefit which the members have derived from its operations. Year by year the amount of sickness pay disbursed has grown from a few hundreds in 1884 to £11,494 in 1906. Letters received at the office show how much this sick pay is appreciated by the members. In all cases it lessens the inconvenience caused them by the loss of professional earning; in not a few it has saved them from serious embarrassment; and in some it has stood between them and actual privation. More particularly is it found valuable in those cases where there is little or no hope that the member will ever again be able to do professional work. In such cases the society provides a practically permanent provision generally amounting to £109 4*s.* a year, and over a score of members are now drawing these annuities. Less than 5 per cent. of the premium income has been spent in management and the savings thus effected enable the committee to pay a handsome cash bonus to members reaching the age of 65 years. In all more than £12,000 has been returned to the members in cash bonuses.

The society has no agents and pays no commission for new business. It has grown steadily through the natural canvassing of the many members who have enjoyed its benefits. The registered office is at 33, Chancery-lane, London, W.C.

I am, Sirs, yours faithfully,

Walthamstow, July 2nd, 1907. ST. CLAIR B. SHADWELL.

THE SANDGATE "SANATORIUM."

To the Editors of THE LANCET.

SIRS,—You will understand that as one of the persons mainly responsible for the Sandgate Sanitary Powers Act I have been greatly interested in your recent articles upon this subject.

I should like in this place to repeat the advice which I gave to the Sandgate council—viz., that their proper course was to refuse to license the hospitals. I am convinced that if this course had been followed the present nuisance would by this time have ceased to exist and that the fear of compensation which dominated the minds of the council would have been found to be as groundless as most fears which are met boldly and conscientiously. Unfortunately, in the face of ignorant and captious criticism within and without the council, the latter lacked the courage of what I believe to have been their convictions.

My main object in writing to you is, however, to comment upon the last paragraph of the article in THE LANCET of June 29th. An ironical excuse is there made for the masterly inactivity of the Local Government Board, and my fear is lest the matter-of-fact mind should fail to perceive the irony. In Sandgate a special law prevails, made specially for Sandgate in circumstances confined to Sandgate. The object of the particular legislation was to get rid of a nuisance; the machinery to be employed was a code of regulations. Private interests were safeguarded by a compensation clause in the special Act. If, therefore, the regulations proposed by the council would result in closing the homes, where would be the objection in principle? What general precedent would this establish? Surely none except that a law made avowedly for a specific purpose should be honestly enforced. The excuse put into the mouth of the Local Government Board that "regulations which would have led to the closing of all homes at Sandgate, if applied generally, would cause the abolition of half the hospitals for tuberculosis in the country" rests for its speciousness upon the words *if applied generally* and therefore ex-hypothesi the excuse fails.

The fact is that the Local Government Board has made up such mind as it possesses that the Act shall remain a dead letter until such time as the Board shall see fit to bring forth a general measure of its own. I ask, is this honest? People complain of so-called judge-made law: with how much more reason might they complain of departmentally stifled laws?

What has Sandgate, what has the nation at large to expect between departmental dishonesty and departmental ineptitude? The fault lies, as your Special Commissioner long ago pointed out, in the political and partisan constitution of the Local Government Board.

I am, Sirs, yours faithfully,

Sandgate, July 2nd, 1907. L. J. D. BROCKMAN.

SOME PHYSIOLOGICAL EFFECTS OF HIGH-FREQUENCY CURRENTS IN DISEASE.

To the Editors of THE LANCET.

SIRS,—I have pleasure in answering the queries which Dr. J. Cunningham Bowie has put to me at the conclusion of his letter to you which appears in THE LANCET of June 29th.

1. The current for the primary is from the main and its voltage is 250. The ampèrage to the primary varies, not only according to the amount of output desired but also according to the form of interrupter used. When a fairly full dose is to be given I use my Gaiffe jet interrupter with a current of from two and a half to three ampères. When a specially small or specially large dose is required I use the friction break, with a minimum of two or a maximum of six ampères.

2. The maximum voltage of my high-frequency apparatus I calculate at about 80,000, whilst the maximum current obtainable is from 700 to 800 milliampères. I seldom apply more than 500 milliampères.

3. When measuring the potential difference between any two points of the body, as hand and forearm or neck and groin, a metallic electrode is applied to each point, and these are connected by a wire to either side of the spinthermeter, and the greatest distance across which a spark can leap is taken as the potential difference in millimetres between these parts of the body of the patient. In measuring the current to zero from any region of the body a metallic electrode is applied to that region and connected by a wire to the water main of the house, the high frequency milliampère meter being in series—that is, between the electrode and the water pipes.

4, 5, and 6. It may simplify matters and prevent repetition if I reply to these questions together. In the case of the potential difference measurement the external circuit is, of course, in parallel with the circuit between the points being measured. In the case of the measurement of the current to zero the external circuit is shunted off to earth from the point which is having its milliampèrage measured and therefore this circuit may be said to be in parallel with the parts of the body of the patient beyond this point. It is possible that a diagram may be necessary to explain this fully, but I hardly think so.

Dr. Bowie must have observed that I have dealt in my paper with the effects of high-frequency currents not according to either the quantity or the quality—voltage, &c.—of

the current but simply as high-frequency currents, and have shown that the physiological effects may differ with varying conditions of the patient. The question as to the effects of various kinds of current I have referred to as important; but I have not attempted to discuss this point, preferring to leave it for future investigation by others as well as by myself. Dr. Bowie's knowledge of the subject and his obvious interest in it lead me to hope that he may help in this. Criticism of what has already been done is a good beginning.

I am, Sirs, yours faithfully,

Glasgow, July 1st, 1907. SAMUEL SLOAN.

THE SURGICAL TREATMENT OF CONSTIPATION.

To the Editors of THE LANCET.

SIRS,—The letter of Mr. J. Hopkins Walters in THE LANCET of July 6th, p. 48, would deserve a full reply if it were not intended as a defence of an author well able to take care of himself. Mr. Walters will see that if I allow myself to be drawn into a controversy with him, next week some fourth person may come forward, some unsilent worshipper of Mr. Walters, to declare that I have "utterly misconceived or misrepresented" his letter, that I "cannot have read" that letter, that I have placed him "on a pillory to be stared at or stoned," and so on. Then, in spite of the "rectitude" and "angularity" with which Mr. Walters credits me (why not call it "rect-angularity"?), I am really a very polite man and might reply to number four, which would call up number five, and so the struggle continue, descending from "great surgeons" to small, then to still smaller, until in ages to come microscopical surgical knights-errant might be bombarding a myth with emanations, infinitesimal but warm, like those of radium.

It is this consideration which prevents me from more than briefly referring to Mr. Walters's own interesting case. I note that in it the obstinate constipation seems to have come on immediately after a "nervous breakdown." I do not suppose, therefore, that Mr. Walters attributes it to any mechanical obstacle presented by the colon. It was with especial reference to excision of the cæcum that I said that "the condition of the appendix vermiformis" should be "always carefully noted." This is made clear by the context, from which Mr. Walters has removed the words, tacking them on to a preceding paragraph, and putting all between one set of inverted commas. This enables him to report with, as it were, a "there now!" that the appendix was found healthy in his case of simple ileo-sigmoidostomy. He has no wish to misrepresent, I am sure, it is merely a specimen of the light and careless touch by which "rectitude" and "angularity" can be avoided.

In reply to his question whether appendicostomy would have produced excellent results in this case I think it would. With regard to my admission that after appendicostomy the opening should be regularly catheterised he should remember that the mere use of the appendicostomy provides this catheterisation automatically. It is no more a serious drawback than the aperients and enemata to which his patient seems to have had to return after ileo sigmoidostomy.

I am, Sirs, yours faithfully,

July 6th, 1907. C. B. KEETLEY.

GROCCO'S TRIANGLE: PHYSICAL AND ANATOMICAL EXPLANATION.

To the Editors of THE LANCET.

SIRS,—I have read with pleasure Dr. F. W. Forbes-Ross's article on the above subject in THE LANCET of June 29th, p. 1773, and do not think that he need in any way apologise as a surgeon for his possession of a general knowledge of medicine. It is to be hoped that the specialist who prides himself upon his ignorance of matters beyond the sphere of his principal activity will become rare among us—is, I would fain hope, not common now. There are a few points in Dr. Forbes-Ross's paper and Dr. W. Ewart's letter in THE LANCET of July 6th, p. 49, which provoke comment.

In the first place, and with every disposition to do homage to those who add to our knowledge, there is manifestly an inconvenience in the use of a patronymic nomenclature of structure or disease. Surely it would be more informing were a term used which denoted a presumably recurrent condition rather than that such should be only appreciated by reference to a biographical dictionary or by more or less archæological research. "Grocco's triangle" is represented as being an area of communicated percussion dulness beyond or beside a medium of lower vibrational capacity than that through which it is conducted to the surface. I am aware that I am rather at variance with Dr. Forbes-Ross on this question of physics but do not propose discussing this point at present, as it is not material to the remarks I propose making.

"Grocco's triangle," if it be such as it is represented as being, is a *parachumatic* percussion dulness. I hope I may be forgiven for using so uneuphonious, yet, I think, quite correct a term, denoting beside or near (παρα) an effusion (χυμα-ατος). Parachumatic percussion dulness may be an all-important or an altogether subsidiary sign. In the cases referred to by Dr. Forbes-Ross and Dr. Ewart it is, I think it will be admitted, of little importance. The conditions stated to manifest it are abundantly evident from other signs. The cases mentioned by Dr. Ewart in which "amounts of (fluid) too small to be identified by any other means," are only thus discoverable must be of rare occurrence. The diagnosis, again, of enlarged bronchial glands in the posterior mediastinum in "incipient cases of tuberculosis" by a "sudden spread" of Grocco's triangle, as pointed out by Dr. Forbes-Ross, is, I confess, a refinement of diagnosis which extorts my admiration but also one which I should hesitate to accept as correct without more definite and other evidence. The chief circumstances in which parachumatic percussion dulness in the thorax may be of great importance are, in my experience, those attendant upon some cases of *subdiaphragmatic suppuration*. An abscess creeping up behind or above the liver and raising the diaphragm (as in Dr. Ewart's cases of ascites showing symmetrical paravertebral triangles of dulness) may be associated with parachumatic dulness at the right pulmonary base posteriorly and with obscuration of the respiration in the area of such dulness. The discrimination of this state from one of primary pleural or pleuro-pneumonic disease lies chiefly in the fact that the constitutional disturbance is out of all proportion to the local thoracic signs, while hepatic and abdominal evidences of the causal condition may be altogether absent. In these circumstances this parachumatic dulness, whatever its shape, is frequently pathognomonic of the serious subdiaphragmatic condition in question and a reliable guide to the measures indicated for the relief of the patient, which are, of course, surgical. In conclusion, Sirs, I hope these remarks will in no wise be regarded as expressing any want of appreciation on my part of the interest of Dr. Forbes-Ross's communication which has the charm of all anatomical elucidations.

I am, Sirs, yours faithfully,

ALEXANDER MORISON.

Upper Berkeley-street, W., July 6th, 1907.

PROPOSED AMALGAMATION OF THE NORTH-WEST LONDON HOSPITAL WITH THE HAMPSTEAD GENERAL HOSPITAL.

To the Editors of THE LANCET.

SIRS,—I venture to ask if you will kindly allow me to correct the statement which Dr. E. Collingwood Andrews is reported to have made in his speech at the meeting of the Hampstead division, Metropolitan Counties Branch, British Medical Association, on July 3rd in reference to the assets which the North-West London Hospital might be expected to bring into the proposed partnership. Dr. Andrews would have his supporters believe that the only financial help to be given by the North-West London Hospital would be "to the extent of about £200 a year by subscribers." In this Dr. Andrews is very wide of the mark, and it is to be regretted that apparently there was no one at the meeting sufficiently well informed to correct this mis-statement.

As a matter of fact, my committee is prepared at this moment to hand over investments and cash balance at the bank to the amount of over £5500, with "stock in trade," which includes surgical instruments valued at £400. Last year (an average year) our annual subscriptions were £754, donations (apart from the King's Fund, the Hospital Sunday and Saturday Funds) £1128. Many of these donations may be regarded as regular income, although they do not appear under the heading of annual subscriptions. The average annual income for the past few years has been nearly £5000.

Besides all this there is the very generous promise of support from the King's Fund, in the event of amalgamation, by (1) contributing for five years the annual sum of £1500; and (2) guaranteeing the rent of the premises of the North-West London Hospital in the Kentish Town-road for ten years, and paying the cost of adapting these premises as an out-patients' department to the amount of £2000.

The question as to whether or not the Hampstead practitioners would suffer by the transaction is not one which should influence the public in their decision. The point at issue is, Will these charitable institutions, to which the public have so generously subscribed, be thereby benefited? To the unprejudiced mind there can be but one answer: both institutions will undoubtedly in the truest sense be strengthened and their sphere of usefulness extended. It should be remembered that in carrying out a scheme such as this there must of necessity be changes involving cases of individual hardship; this is especially the case here at the North-West London Hospital. But it is gratifying to know that every one whose personal interest is at stake, be he doctor or layman, is prepared to stand on one side rather than put the smallest hindrance in the way of an undertaking which we all believe to be on the whole a wise and beneficent one.

I am, Sirs, yours faithfully,

ALFRED CRASKE, Secretary.

North-West London Hospital, Kentish Town-road, N.W., July 8th, 1907.

PHYSICAL EXAMINATION OF SCHOOL CHILDREN.

To the Editors of THE LANCET.

SIRS,—In your report of the proceedings of the Standing Committee on Mr. J. Wilson's Public Health Bill in THE LANCET of July 6th, p. 67, I am reported, probably owing to necessary condensation, as opposing the examination of children in elementary schools for infectious disease by the medical officer of health.

Clause 82 was so drawn that power would be given to the medical officer of health to make an extended physical examination of every child as well as to examine it for infectious disease. This was objected to, and Sir William Collins put down an amendment requiring that before any physical examination was made the written consent of the parent or guardian should be obtained. In supporting this amendment I pointed out that such written consent had usually to be obtained in secondary schools and I was opposed to the children of the poor being made to submit to a physical examination while the child of the richer parent would escape.

I am, Sirs, yours faithfully,

July 6th, 1907. GEORGE COOPER.

AN ASPECT OF VACCINES AND ANTITOXINS.

To the Editors of THE LANCET.

SIRS,—The halo of individuality which modern science sheds round the agents submitted for special uses tends to limit observation within the lines suggested. It is open to doubt whether this is entirely good. Specially is it questionable in such remedies as are derived from the blood of man or animals. The vaccines, serums, and antitoxins may contain recognisable individual products which have specific uses, but their life-history and the mode of their production class them with possible family associations which may be serviceable under other and not always allied conditions. It is now everywhere admitted that the lymph which Jenner used in his vaccinations was not even bacteriologically pure; the admission is ample reason for all the research which has placed his operation on the sound basis which is the foothold of its present advocates. One, perhaps two, observations must have fallen to the lot of most medical men; the first, that vaccination performed in the early stages of some previously existent disease was frequently delayed, or prevented, in its evolution; secondly, that infantile eczema or impetigo was not a bar to successful vaccination, but rather that the successful vaccination was sometimes followed by a disappearance of the eczema. My own experience would tend to show that this result followed more frequently after the use of humanised lymph than with the more pure and individualised calf products. The eldership of vaccinia should have placed it in the forefront of individuality as regards its scientific purity. My object in this note is to call attention to some possible bye-products, or nuclein derivatives, which may exist in the next elder of the serums.

Some years since I was called upon to give a protective dose of the antidiphtheritic serum to several members of a family, one of whom was the subject of persistently recurring boils. To my great satisfaction the boils ceased immediately after the injection. The observation was too trite to be neglected. I offered to repeat the experiment in other cases of the same nature, as well as in cases of carbuncle. The results have convinced me that it is of great value and is usually successful. In some of my cases there was evidence of sugar in the urine, but I have not had the opportunity to use the serum in the carbuncles of confirmed diabetes. I tried it without success in the pustular rash which sometimes attends the continuous administration of bromides. We see so little septic disease in Guernsey that one's stock of anti-streptococcic serum is apt to grow stale. Once I required some under these conditions and was shut off by a Sunday's post from obtaining more till the Tuesday. As a "do-no-better" I used the antidiphtheritic serum and with such good result that no other was required.

My first, and accidental, result was obtained from the use of 500 units, but in the selected cases I have used 2000 units. I have no hesitation in asking for an extended trial of it in cases of boils and carbuncles; all my patients have been most grateful. Once again, the use of antistreptococcic serum is somewhat disturbing in early childhood. An infant was born of a mother who died 14 days later from puerperal septicæmia in India. The child had an abscess opened near the anus before it fell under my care, and it had a purulent discharge from the ear as well as a maintained temperature, which if it seldom reached above 100° F. also failed to touch the normal lower temperature of the day. After consultation with the uncle (who is an M.D., T.C.D.) I injected 500 units of the antidiphtheritic serum and the result was satisfactory. The ear discharge ceased, the temperature became normal, and the division of a small sinus near the anus restored the infant to perfect health. There is no finality in these results; they only raise the question of a limited individuality of the serums and perhaps suggest the lines of search for their family relationships.

I am, Sirs, yours faithfully,

Guernsey, June 21st, 1907. J. AIKMAN, M.D. Glasg

MSS. OF JOHN HUNTER'S LECTURES.

To the Editors of THE LANCET.

SIRS,—I possess a volume described on the back as "Hunters Surgery MS." which appears to be different from any which you have mentioned. It is written throughout in the first person (and beautifully written), contains 67 lectures, 422 quarto pages, with five more pages of index. The only indication of its date might be found in the following passage in the beginning of the first lecture: "This course will consist of about eighty lectures in wch (*sic*) I shall differ very much from what is taught in books upon this subject. I do not undertake to advance anything but what is built upon my own observations made in an attentive practice of 40 years and upwards." The index is a most careful *précis* of each lecture—for example, lect. 13—

Acquir'd Hereditary causes (of disease), Effects of ye mind on disease, Involuntary actn of voluntary parts, Symptoms, Anomalous symptoms, the difference in ye power of resist'g disease in ye different Structure of parts.

I would not like to part with the volume, which I regard as a precious heirloom, but if it is original the R.C.S. must have it.

I am, Sirs, yours faithfully,

Southport, July 6th, 1907. COLIN CAMPBELL.

THE APOTHECARIES ACT, 1907.

To the Editors of THE LANCET.

SIRS,—In view of the numerous inquiries I am receiving from those holding the diploma of the Society of Apothecaries as to the effect of the Act upon their diploma, may I be allowed to state that the result of the Act, so far as concerns those who have obtained the "L.S.A." since June 30th, 1887, is to enable them *on application to the Society* and on payment of the prescribed fee to have granted to them a diploma conferring the qualification of "Licentiate in Medicine and Surgery of the Society of Apothecaries." Subject

to obtaining this new diploma from the society the qualification can be entered upon the Medical Register. The form of the new diploma and other matters connected therewith are at the present time under the consideration of the Court of Assistants of the Society, and I hope to be in a position to make a definite statement as to the Society's requirements in the course of next month.

I am, Sirs, yours faithfully,

A. MOWBRAY UPTON,
Clerk to the Society.

Society of Apothecaries of London, Blackfriars,
London, E.C., July 9th, 1907.

SOME TURKISH LAZARETS

AND OTHER SANITARY INSTITUTIONS IN THE NEAR EAST.

BY THE BRITISH DELEGATE ON THE CONSTANTINOPLE BOARD OF HEALTH.

(With Reproductions of Photographs taken by the Author.)

X.[1]

THE ABU-SAAD LAZARET.

Position and Object of the Lazaret.—Question of its Transfer Elsewhere.—Proposed Annexe on the Mainland.—Statistics of Pilgrims Quarantined there.—Means of Landing; Sambouks and Tug; Landing Piers.—Disinfecting Pavilion.—Need of Wire Fencing Round the Different Cordons.—Stone Houses for Pilgrims.—Total Capacity of Lazaret.—The Drinking-water Supply; New Distilling Apparatus; Mode of Distribution.—Sea-water Supply.—Latrine Jetties, Old and New.—Absence of Hospitals; New Hospital for Ordinary Diseases to be Built on Abu-Saad; Space for a Second One left on Wasta; Infectious Diseases Hospital on Abu-Ali.—Staff of the Lazaret and Mode of Lodging them.—Other Buildings.—Estimated Cost of New Works.—Return of the Pilgrims from Mecca to Jeddah and their Departure for Yanbo or for their Own Countries.

THE lazaret of the port of Jeddah is commonly known as the Abu-Saad lazaret, that being the name of the principal of the three islands upon which it is built. The others are named Wasta and Abu-Ali. The so-called "port" of Jeddah is merely an anchorage, or rather two anchorages, an "inner" and an "outer port," among the shoals and coral reefs which characterise the whole of this coast. These reefs are very irregular but their long axes run more or less parallel with the coast. The "outer port" is about two and a quarter sea-miles from the shore and the "inner port" about one and a quarter miles in a straight line, but no boat, however shallow its draught, could reach the shore by following a straight line, and the only available channel takes an extremely zigzag course among the reefs. From the inner port to the island of Abu-Saad the distance is three and three-quarters sea-miles, from Abu-Saad to Wasta it is one and three-quarters miles, and from Wasta to Abu-Ali one and a quarter miles. The three islands lie to the south of the town and are roughly about two miles from the mainland. Ships in quarantine remain in one or other of the anchorages at Jeddah and their pilgrims are transferred to the lazaret in sambouks.

The Abu-Saad lazaret was brought into existence in 1882 as a "succursale" of the much larger institution at Camaran. It is intended for the use of ships carrying not more than 5 per cent. of their net tonnage coming either from the north or from the south. Ships with a larger number of pilgrims are liable to be sent to Camaran, but this usually happens only in the case of ships from the south. The latter are always subject to from five to ten days' quarantine, and they have in any case to pass close to Camaran on their voyage to the Hedjaz. But ships from the north are only liable to quarantine when Egypt or some of the countries on the Mediterranean are infected with plague or cholera. This happened in 1902–03, in 1905, and again in 1906–07 (the Haj just completed). On the two earlier of these three occasions the Egyptian lazaret of El Tor was used for pilgrims going to the Hedjaz from the north by agreement with the Alexandria Quarantine Board. In the present Haj, however, the pilgrims have been sent to the Abu-Saad lazaret. The Commission of Inspection has gone very carefully and fully into the figures, and these show that when there is not more than two days' quarantine in force against Egypt or other "northern" country the Abu-Saad lazaret is capable of providing sufficient accommodation, but when the quarantine extends to five days then the accumulation of pilgrims is likely to be such that the Abu-Saad institution is quite inadequate to hold them.

It has more than once been proposed to transfer this lazaret to a spot where more ample accommodation could be provided than is possible on the three small islands named above. Unfortunately, no other suitable spot has yet been found; to this point I shall have occasion to refer again in the article dealing with El Wej. For many reasons the entire transfer of the lazaret is undesirable and as there are equally cogent reasons against the use of Tor (for pilgrims going *to* the Hedjaz) and against the repulsion of ships from the north to Camaran the Commission proposes to meet the difficulty by providing an annexe on the mainland to the lazaret on the three islands near Jeddah. Such annexe would only be required on the occasions when there was a quarantine of more than two days against Egypt, and then only for the two or three weeks immediately preceding the fêtes at Mecca, in which the Haj culminates. At other times the three islands should suffice.

The lazaret of Abu-Saad differs from that of Camaran, firstly, in being open all the year round, and secondly, in the very wide fluctuations in the number of pilgrims it may be called on to receive in the year (depending mainly upon the presence or absence of quarantine against Egypt or other "northern" country). These fluctuations are shown in the following table:—

Table giving the Annual Totals of Pilgrims Interned in the Abu-Saad Lazaret.

Year.		Pilgrims.	Year.		Pilgrims.
Of the Hegira.	A.D.		Of the Hegira.	A.D.	
1299	1882	5,435	1312	1895	9,437
1300	1883	4,894	1313	1895–1896	23,304
1301	1884	3,988	1314	1896–1897	13,076
1302	1885	3,286	1315	1897–1898	1,766
1303	1886	2,181	1316	1898–1899	1,852
1304	1887	3,519	1317	1899–1900	3,726
1305	1888	2,578	1318	1900–1901	1,103
1306	1889	4,021	1319	1901–1902	21,625
1307	1890	12,862	1320	1902–1903	3,662
1308	1891	4,602	1321	1903–1904	2,733
1309	1892	4,574	1322	1904–1905	10,209
1310	1893	6,525	1323	1905–1906	2,524
1311	1894	5,567	—	—	—

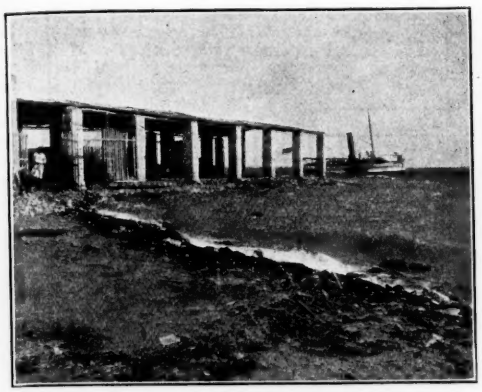
The three islands on which (or, to speak more accurately, on two of which) the lazaret is at present built are typical small coral islands. Abu-Ali is smaller than Wasta but larger than Abu-Saad. The disadvantages arising not only from the smallness of the islands, but also from the fact that the lazaret is thus split up into sections, separated by wide stretches of water, are too obvious to need dwelling on. For the purposes of communication between the lazaret and the town and between the different portions of the lazaret the sanitary authorities possess a steam-tug, the *Zulal*, a small steam launch, and a four-oared sailing boat. The steam launch, however, can never with safety leave the "port" of Jeddah, and it and the sailing boat are practically limited to carrying out the requirements of the service in the port. The *Zulal* is a small but powerful steam-tug; it is used for towing the sambouks in which, as already stated, the pilgrims are carried to the lazaret from their steamers. The Commission finds that there is need for additional means of establishing communication between the different parts of the lazaret and its recommendation for the purchase of another large four-oared boat has been already carried out.

There is a stone landing-stage at Abu-Saad and another at Wasta, but none at Abu-Ali. Both the existing stages were found in a bad state of repair and to need lengthening; the necessary works were put in hand during the past summer and both have now been thoroughly repaired and prolonged

[1] Nos. I., II., III., IV., V., VI., VII., VIII., and IX. were published in THE LANCET of April 27th (p. 1188), May 4th (p. 1251), 11th (p. 1317), and 18th (p. 1389), June 1st (p. 1518), 8th (p. 1607), 22nd (p. 1741), and 29th (p. 1810), and July 6th (p. 51), 1907, respectively.

to a point where the water is deep enough to allow boats to come alongside. The Abu-Saad pier as it was before the repairs were begun is seen in Fig. 34. It is covered with a roof, supported on stone pillars, and this also has been thoroughly repaired. The absence of a landing-pier at Abu-Ali has hitherto rendered that island useless; the Commission's recommendation to construct there a pier 35 metres long and three wide is now being carried out. The amount of superficial space being extremely limited, even taking all the three islands together, it is a matter for

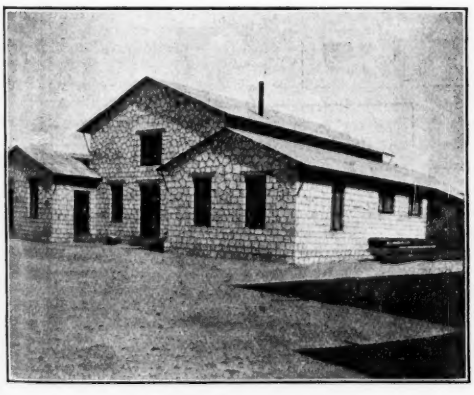
FIG. 34.



Landing pier at Abu-Saad and steam tug *Zulal*.

regret that many of the existing buildings have been put up with very little thought of symmetry or of any general plan of the institution as a whole. In this way some valuable space has been lost. It is too late to remedy this defect now and all that can be done will be to employ the land still remaining free to the greatest advantage and to establish the best general plan of the lazaret that can be attained without removing existing buildings. The island of Abu-Saad is now very largely built over; on that of Wasta there is a considerable amount of space left, but the presence of two old and six new houses for pilgrims—the former irregularly placed and the latter occupying a line running down the middle of the island—compels the adoption of a plan for this island which lacks symmetry (as shown in the accompanying sketch) but which is the best possible in the circumstances. On Abu-Ali no buildings have as yet been put up and here it is proposed to build the hospital for cholera or plague, to be mentioned later.

FIG. 35.



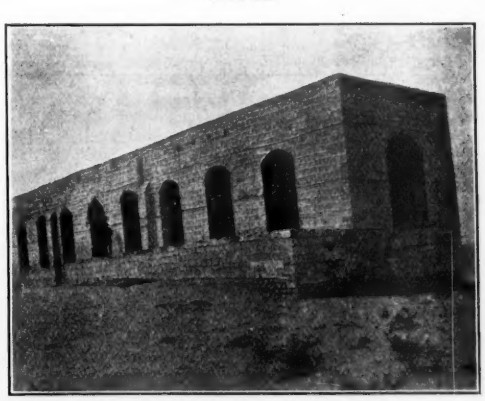
Disinfecting pavilion, Abu-Saad.

There is at present only one disinfecting pavilion for this lazaret. It is seen in Fig. 35. It is a masonry building recently constructed; the ground plan of it is excellent. It is much smaller than the corresponding buildings at Camaran described in an earlier article. On the male side there are 16 douche baths and on the female side six. There are two steam disinfecting stoves. A number of improvements in detail of this pavilion are recommended in the Commission's report, but they scarcely need be mentioned here; most of them have been already, or are being, executed. In the plan of Wasta prepared by the Commission a space is left near the landing jetty for the future construction of a second disinfecting pavilion. This will do away with the necessity of landing pilgrims destined for Wasta at Abu-Saad to undergo their disinfection, after which they have again to be put on their sambouks and towed from that island to Wasta.

Perhaps the most serious defect of this lazaret in its existing state is the lack of separation between different groups of pilgrims interned there at the same time. Hitherto the most that has been done in this respect has been to fix some posts in the ground and run a cord between them. It is obvious that this constitutes no real separation of any kind. The Commission's recommendation to divide the islands up into "cordons" or camps and to surround these by high wire fences will very shortly be carried out. The fences will be of the same character as those recommended for Camaran and described in an earlier article. The lines which these fences will follow and the shape and size of the cordons thus established are seen in the accompanying sketch plans of Abu-Saad and Wasta. (Plan V.)

The pilgrims are lodged either in stone houses or in tents, the "arish," or mat-and-thatch house in use at Camaran being almost unknown in the Jeddah neighbourhood. There are four large stone houses on the Abu-Saad island, each capable of holding 80 pilgrims; on Wasta there are two old houses of the same kind and size as those at Abu-Saad, and six new smaller houses. The latter were in course of construction when the Commission visited the lazaret; they have since been completed, as also three quite small single-roomed houses on Wasta and two on Abu-Saad. These latter were intended to serve as kitchens, but as the Commission pointed out, land is too scarce and valuable to permit of using so much of it for kitchens, more particularly as most of the pilgrims carry portable cooking stoves with them or are adept at improvising kitchens on the sand. The five small houses in question

FIG. 36.

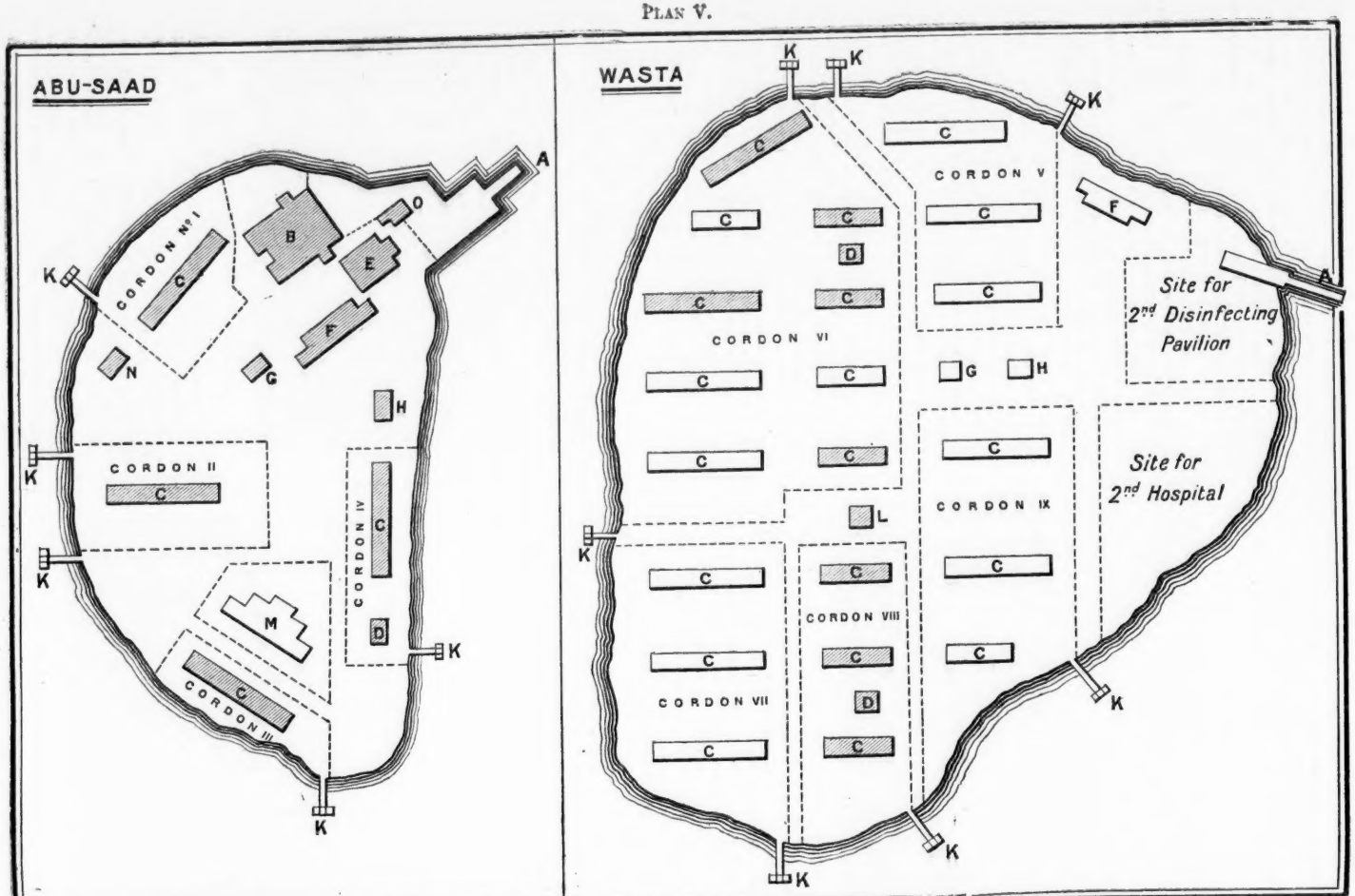


House for pilgrims in quarantine, Wasta.

have consequently been modified in the course of construction and been converted, some into houses "of distinction," one into a lodging for the sanitary guards, and one into the office of the lazaret.

The old houses for pilgrims are 31 metres in length and 6·10 metres in width. They are built of the madreporic stone which is found in abundance in the neighbourhood of Jeddah. The roof is of "tap-tap," the nature of which was described in Article III. They all require thorough repair, and it has been decided not only to strengthen and to repair the walls but also to add a parapet round the flat roofs, with an outer stair at one end of the building to give access to the roof; to replace the rough stone flooring of the interiors by a flooring of cement; to add a covered verandah along one side at least of each of the houses; and to carry out certain other

PLAN V.



Sketch plans of the islands of Abu-Saad and Wasta, showing existing buildings (shaded) and projected buildings (unshaded). A, A, Landing piers. B, Disinfecting pavilion. C, C, Houses for pilgrims. D, D, Houses of "distinction." E, Distilling apparatus. F, F, Residences for staff. G, G, Provision dealer. H, H, Barracks for military guard. K, K, Latrine jetties. L, House for sanitary guards. M, Hospital. N, Office. O, Depôt. – – –, Wire fencing. The plans are drawn roughly to scale, one inch representing approximately 112 feet.

measures intended to increase both the comfort and the durability of these structures. The exterior of one of the houses at Wasta is seen in Fig. 36.

At Abu-Saad there is no room left to put up any new houses for pilgrims; the four old houses existing there are capable of holding 80 pilgrims each, or 320 in all. At Wasta, in addition to the two old houses and the six large and three small new houses just completed, the plan proposed provides for 13 new houses, of which nine would contain 80 pilgrims each, one would contain 70, and two 60 each. There would thus be in all in Wasta 12 houses for 80 pilgrims each, one for 70, and eight for 60; or accommodation for 1510 persons. These houses would be grouped in five cordons, as shown on the plan, capable of holding respectively 240, 630, 240, 180, and 220 pilgrims. The four houses at Abu-Saad, it should have been stated above, will each form a separate small cordon for 80 pilgrims; this is practically necessitated by the position they occupy, but fortunately, as statistics show, the majority (57·5 per cent.) of ships coming to this lazaret carry less than 80 pilgrims each. On Abu-Ali it is proposed to cut off the north end of the island by a double wire fencing, to the north of which will be constructed the infectious diseases hospital, while to the south there will be room for one or two cordons holding about 650 or 700 pilgrims. Thus the maximum number of pilgrims that this lazaret can accommodate, so long as it is confined to these three islands, will be about 2500, distributed as follows: Abu-Saad, 320; Wasta, 1510; Abu-Ali, say 670. At present it will be seen that only some 840 pilgrims can be lodged in stone houses. The remainder have to be put under tents. The tents belong to the Turkish Government and are usually sent down from Mecca to Jeddah when they are required at the lazaret.

The present drinking-water supply of this lazaret is provided by a distilling apparatus. This was put up last year in a building near the jetty on Abu-Saad which was formerly the disinfecting pavilion. The apparatus is of the "Weir" type. The total cost, including transport to the lazaret, was about £660 sterling. It is capable of producing 15 tons of fresh water in 24 hours. The machine was being put up when the Commission visited the lazaret and had not begun to work. During the season just completed it is said to have worked well and given satisfactory results.

When this lazaret was first brought into existence it was intended to use rain-water for the pilgrims. A large masonry reservoir was constructed by the side of each of the stone houses which have been described. But rain is extremely rare in these regions and it is said that these reservoirs have never held any water at all. The lazaret has consequently been dependent hitherto upon a small distilling apparatus mounted on the tug *Zulal* already described or on water from Jeddah. The distiller on the *Zulal* is capable of producing only three or three and a half tons of water per day, an insufficient quantity when the lazaret is anything like full. The Jeddah water is, as was shown in a previous article, of the very worst quality possible. Consequently there was abundant reason for putting up the new distilling apparatus.

The existing method of distributing the water through the lazaret was found to present many grave drawbacks. At Abu-Saad there is a cemented masonry reservoir of ten tons on the jetty and at Wasta there are two iron reservoirs on the sand by the side of the jetty. Twice a day the groups of pilgrims were allowed to leave their cordons in turn and come to these reservoirs where they filled their jugs or tins with the amount of water allotted to them (two and a half litres in the morning and the same quantity in the evening). It is obvious that such an arrangement infringes the principles of the complete isolation of each group from the other and of the thorough security of the central water-supply from contamination. It was bad enough at Abu-Saad where the reservoir has a tap; it was still worse at Wasta where the pilgrims dipped their vessels into the reservoirs themselves. It has now been decided to have five large galvanised iron central reservoirs of ten tons each, one at Abu Saad, three at Wasta, and one at Abu-Ali; from these the water will be conducted to each cordon in underground pipes and in each cordon there will be a tap under the control of an employee of the lazaret, where the pilgrims will take their water twice a day, as at present, but without leaving their cordons.

Salt water is supplied to the disinfecting pavilion in Abu-Saad by a pump which aspirates the water from the sea and distributes it to two small reservoirs of one and a half tons each. At present the salt water goes no further, but piping is now to be laid down which will conduct it to the latrines in the new hospital to be put up at Abu-Saad and also to those of the lodging for employees to be referred to later.

The latrines for pilgrims at this lazaret are situated at the end of long wooden jetties running out into the sea. It will be recalled that similar jetties exist at Camaran and that it was necessary to condemn roundly their use at that lazaret.[2] The conditions, however, at the three islands near Jeddah are different. There the tide does not run out a long way, leaving a wide expanse of sand and the latrines dry, as at Camaran. On the contrary, with comparatively short jetties it is possible to put up the latrines where there will always be water below them. Moreover, there are very strong currents which carry away the solids immediately and the sea swarms with fish which apparently devour them. Consequently the lazaret employees declare the existence of these latrine jetties at Abu-Saad and Wasta has hitherto never given rise to the highly unpleasant conditions which rendered their condemnation necessary at Camaran, nor indeed to any complaint of any kind. In view of the small area of the islands it is not only advantageous but almost necessary to continue the use of latrines at the end of jetties.

In place of the old wooden jetties several new ones consisting of wooden beams and planks supported on concrete and masonry piers have been put up during the past year, and several others are projected, so that in all there will be five such jetties at Abu-Saad, seven at Wasta, and one (or two) at Abu-Ali. In the new hospital at Abu-Saad and in the residences for the staff on that island it has been decided to put in water-closets with flushing cisterns and drains to the sea.

A very serious defect in this lazaret is the entire absence of proper hospital accommodation. Hitherto if any cases of illness occurred among the pilgrims they were treated either in an empty house for pilgrims (if there happened to be one empty) or in a tent, or very often in the cordon to which they belonged, without removing them from the healthy pilgrims. The Commission naturally condemns such an arrangement and urges the immediate construction of two hospitals, one for ordinary diseases, the other for infectious diseases.

The ordinary diseases hospital will be built on Abu-Saad on a roughly triagular area near the southern end of the island. The plan proposed for this hospital is furnished in the report of the Commission. It provides for two wards capable of holding some 12 patients, a bacteriological laboratory, pharmacy, bath-room, two water-closets, and a room for the attendants.

In the plan of the island of Wasta (Plan V.) a space has been left for the future construction of a second hospital for ordinary diseases, so as to avoid the transport of the sick from this island to Abu-Saad. Finally, the infectious diseases hospital will be built at the northern end of the Abu-Ali island; it will be capable of holding 12 patients and will be provided with the usual annexes.

The staff of this lazaret consists of the following: one permanent medical officer, to whom during the height of the pilgrim season a second, and even a third, may be added; one clerk; one "étuviste" to work the disinfecting stoves; a head-disinfector and two disinfectors (increased in case of necessity); a head-guard and four permanent guards; and a number of temporary guards varying with the number of pilgrims interned in the lazaret. In addition there are two "mécaniciens," a first and second, who are in charge of the tug *Zulal*, the small launch, and the distilling apparatus and disinfecting stoves; a pilot, two sailors, and two stokers on board the tug; and four boatmen for the sailing boat. To lodge all these employees there exist a small residence on the island of Abu-Saad, another one on Wasta, and four rooms in the old disinfecting pavilion, by the side of the central chamber in which the new distilling apparatus has been put up. The residence on Wasta is a two-storeyed building, with two rooms and a vestibule on each floor. The Commission found it in an extremely bad state of repair and practically uninhabitable. It will therefore be demolished and another building—the plan of which is furnished in the Commission's report—will be put up instead, on a site near to the landing jetty.

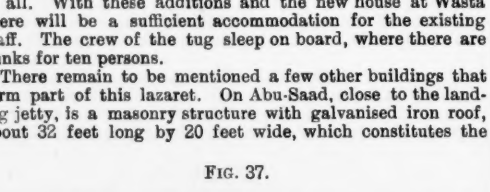
The residence on Abu-Saad, which is shown in Fig. 37, is

[2] Article V., THE LANCET, June 1st, 1907, p. 1521.

a similar building but in a better state of repair. It has been decided to restore thoroughly this building and to add two new rooms at each end of it; there will thus be four rooms on the ground floor and four on the upper floor, or eight in all. With these additions and the new house at Wasta there will be a sufficient accommodation for the existing staff. The crew of the tug sleep on board, where there are bunks for ten persons.

There remain to be mentioned a few other buildings that form part of this lazaret. On Abu-Saad, close to the landing jetty, is a masonry structure with galvanised iron roof, about 32 feet long by 20 feet wide, which constitutes the

FIG. 37.



House for staff, Abu-Saad.

only depôt or storeroom that the lazaret possesses. It is rather small for the purpose, but it is difficult to find room for another on any of the islands. It is therefore proposed to build one in Jeddah itself adjoining the sanitary office there, and it will thus serve for the purposes of the office and the lazaret combined. Annexed to the store is a small room in which are a forge, a lathe, and some other machines. On Abu-Saad a stone house to lodge the military guard has recently been built and a second one is provided for in the plan of Wasta.

Both at Abu-Saad and at Wasta there are small wooden houses occupied by the provision dealer from whom the pilgrims buy their food and various other articles at a fixed tariff. The same dealer, an Arab, has provided the lazaret for the last 18 years. He or his employees remain interned in the lazaret so long as there are any pilgrims quarantined there. The house he occupies on Abu-Saad is in fair repair but that on Wasta is a mere skeleton of wood, and is to be rebuilt on another site, as shown in the sketch map of that island.

There is no railway in this lazaret, as at Camaran, nor is there any need of one, the islands being so small. At present also there is no telephone, and this is a serious disadvantage, in view of the distance of the lazaret from the town and of the individual islands from each other. It has been decided, therefore, to establish telephonic communication both between Jeddah and Abu-Saad and between the different islands.

The total cost of the new works proposed by the Commission for the completion of this lazaret is estimated at about 13,000 Turkish liras (say, £12,000). The more urgently needed works require an expenditure of about 5000 liras, and of these about one-third have already been put in hand since the return of the Commission to Constantinople; the others must of necessity wait until fresh credits can be voted by the proper authority. The works just mentioned as being already put in hand are the following: the construction of a landing-stage at Abu-Ali, the building of one of the hospitals, the putting up of wire fencing on all the islands, so as to establish definitely the plan of the lazaret and the shape and size of the cordons, the carrying out of certain modifications in the disinfecting pavilion, and the introduction of pipes to distribute the fresh water throughout the islands of Abu-Saad and Wasta.

I have now completed the description of the lazarets of Camaran and of Jeddah. These both serve for the quarantining of pilgrims on their way to the Hedjaz. Before passing on to consider some subsidiary ports of pilgrimage in the Red Sea and some quarantine institutions connected with the return of the pilgrims from the Hedjaz a word or two may be said as to the movements of the pilgrims themselves between their arrival in, and departure from, that province. I have already described the nature of the fêtes at Arafat and Mina in which the Haj or pilgrimage culminates[3] and the sanitary measures taken in connexion with those fêtes. As soon as they are completed the pilgrims begin to leave Mecca as rapidly as the authorities and the supply of camels permit them to do so. As a matter of fact, a few days generally elapse between their return from Mina to Mecca and the departure of the first caravan from the latter town, either for Jeddah or Medina. Sooner or later two streams of caravans form, the one flowing westwards to Jeddah, only 45 miles distant, the other northwards to Medina, at a distance of 12 days' journey in the desert. The delay in starting either of these streams is connected with the chaffering and bargaining inseparable from the hiring of camels for two such journeys.

On returning to Jeddah the pilgrims again split up into numerous groups, but these may be roughly divided into two—those going to Yanbo in order to continue their pilgrimage to Medina and those returning to their homes. The latter comprise, of course, a vast variety of pilgrims, and they leave Jeddah to disperse to all parts of the Moslem world as rapidly as steamers can be provided for them. The former also constitute a very varied and numerous group, their total frequently running up to five figures. At this period the town of Jeddah is in the intensely overcrowded condition described in an earlier article. A delay of some days generally occurs between the arrival of the first caravan from Mecca and the departure of the first steamer. During this interval there is for a day or two much uncertainty as to the price the pilgrims will be charged for their return journey. Several large shipping companies are concerned in the pilgrim traffic, and in some years open competition prevails between them, while in other years a pool or syndicate is formed by mutual arrangement between the companies who then agree to charge the pilgrims the same price all round. When open competition prevails the prices are lower and the conditions more favourable for the pilgrims. A certain number of pilgrims—notably those from the Dutch East Indies—have return tickets and can regard with indifference the question whether competition or the pool is to carry the day. But these are the exception.

Among the pilgrims accumulated at this period in Jeddah there are always many in an almost or quite penniless condition. Some are more or less in that condition from the time they set out on the Haj; others have spent all they had during their stay in the Hedjaz. There is always a difficulty in getting these indigent pilgrims back to their own countries. Generally—and more particularly when the "pool" system prevails—the shipping companies consent to carry on their ships a certain percentage of such pilgrims gratuitously. Others are paid for by their respective Governments or out of charitable funds. And so, little by little, the port of Jeddah empties itself of ships and of pilgrims, and enjoys a few months of repose before the first arrivals of the succeeding Haj. The numbers leaving Jeddah are always rather less than those that arrived there. Some pilgrims have died in the Hedjaz; others have gone from Mecca overland to Medina and return thence to Yanbo (though this group is compensated by another group of pilgrims, who follow the reverse route, landing at Yanbo and leaving the Hedjaz by Jeddah); and some have settled in Mecca for a year or two or even for life.

(To be continued.)

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

The University.

Degree Day, which was held on Saturday last, terminated the work of the summer term, which has been even more than usually extensive and successful. The Degree Congregation was held in the town-hall and fortunately the weather was fine during the passage of the procession from the University

[3] THE LANCET, Feb. 16th, 1907, p. 464.

buildings in Edmund-street to the hall. The spectacle inside the hall was brilliant, the decorations blending charmingly with the pretty dresses of the ladies and the varied gowns of the teachers and graduates. After the Vice-Chancellor (Alderman C. G. Beale) declared the Congregation open little or nothing was heard except the noises made by the students as they welcomed and congratulated the various recipients of degrees. No one seemed to mind the noise, which rose to crescendo whenever a particular favourite approached the rostrum, and indeed it mattered little, for everyone knows the formula of presentation and that of reception, and there were no speeches. Professor Sir Edward Elgar, who was presented for the degree of Master of Arts, received a great ovation, and Professor Kirkaldy, who was obviously also a favourite of the students, received the degree of Master of Commerce. 29 graduates in arts were presented by Professor Fiedler, 43 graduates in science by Professor Poynting, 12 graduates in medicine by Professor H. Gilbert Barling, and one in commerce by Professor Ashley. Mr. Sidney S. Dawson, F.C.A., has been appointed to the chair of Accounting, which became vacant by Professor Dicksie's resignation, and Mr. A. W. Wellings, B.D.S., has been elected lecturer in Dental Histology and Pathology in the place of Dr. H. P. Pickerill, who has accepted the appointment of director of the Dental School of New Zealand.

Annual Report of the Medical Officer.

With the exception of two points Dr. J. Robertson's report of the health of the city during 1906 is very satisfactory but the infant mortality and the death-rate from zymotic disease were not what could be desired, for the former was 163 per 1000 and the latter 2·78 per 1000. So far as the infant mortality is concerned it may be allowed that the summer of 1906 was, to a certain extent, exceptional and no doubt the death-rate, high as it was, would have been much greater under similar conditions a few years ago; we may, therefore, hope for still better results in the future but we shall only get the better results when the mothers understand their duties. It has been frequently urged that the milk-supply is mainly the cause of excessive infant mortality but those who have seized upon that one point will have to reconsider their position, so far as deaths from diarrhœa are concerned, for, as Dr. Robertson points out, with respect to Birmingham, all the deaths occur in one moiety of the population and the other is practically immune, and the milk-supply is practically the same. The exceptional summer of 1906 does not account, however, for the increase of the zymotic death-rate and the cause of the rise from 1·94 in 1905 to 2·78 is not at present readily explainable on any definite grounds. With the exception, however, of the two sets of unsatisfactory conditions above mentioned the general health of the city during 1906 was extremely good. There was no small-pox, the deaths from typhoid fever were very few, and the total death-rate only amounted to 16·8 per 1000, or very slightly higher than the record year 1905, when it was only 16·1 per 1000. The birth-rate varies in the different wards from 18·6 to 37·3 per 1000 and averages 29·3 per 1000, as against 29·2 in 1905. On the whole, therefore, the city compares favourably with many other large towns and as the improvements which have been initiated begin to tell we shall gradually occupy a more and more enviable position in the general mortality returns.

Birmingham Lunatic Asylums and the Cost of Pauper Lunatics.

From the annual report of the asylums committee it appears that the number of patients in the asylums has been reduced during the year from 2029 to 1998. At first sight this may appear to be satisfactory but further consideration will diminish any congratulatory thoughts for, according to the report, the discharges from the asylums include 199 recovered, 39 relieved, and 74 not improved, and a little consideration will show that many of the so-called recovered will return at a future day and both they and the relieved will in the meantime beget children who, even in the most favourable circumstances, will help to swell the record of the lunatics of future years. It would be costly in the first instance to prevent this, but it would be economical eventually, and though it would inflict some hardship in a number of cases it would be good for the race as a whole, and some time it will have to be done. In the meantime the ratepayer will be glad to know that we are to pay a little less for our pauper lunatics, the price per head being reduced from 11*s.* 11*d.* to 10*s.* 6*d.* per week.

Exhibition of Hand Loom Weaving by Crippled Girls.

Some five years ago a school of hand-loom weaving was established in association with the Birmingham Crippled Children's Guild, the object being to provide some crippled girls with a means of making a living. It was commenced on a small scale but it was soon seen that the scheme was capable of expansion, and last year the school was moved to more commodious premises. At first it was not a financial success but now it pays its way on sound commercial lines both as regards the sale of its work and the pay of the workers. It utilises ten looms and gives congenial employment to 12 crippled girls, and it is rapidly establishing an excellent reputation which is being won in open competition, for at the exhibition held at the Albert Hall in London this year 29 of the 30 exhibits sent by the school secured awards. Although the work done pays working expenses the profit is not at present sufficient to pay off expenses incurred in establishment and more money is needed for the provision of some new English looms. It is to be hoped that this will soon be provided, for an institution which enables afflicted girls to earn a living by work which is not beyond their restricted capabilities is surely worthy of support. Mrs. Kirkaldy, the president, and the members of the committee working with her wish to develop the enterprise on coöperative principles and they are anxious in the first instance to clear off the debt. Some of the materials shown at the recent exhibition at Queen's College were excellent examples of their class and those who wish to utilise artistic and durable materials cannot do better than communicate with the school authorities.

St. John Ambulance Brigade: Birmingham Corps.

The recent inspection of the Birmingham corps of the St. John Ambulance Brigade was held in the Botanical Gardens and in spite of the very bad weather passed off successfully. The total number at the parade, including two companies of nurses, was 180. In the evening, after the inspection, Colonel Elliston, the inspector, distributed the certificates and complimented the brigade upon the way in which it had turned out and upon the character of the work which it had done during the afternoon. He also expressed the hope that the brigade would respond heartily to the offer that they should serve as a reserve to the Army Medical Corps under the new scheme.

Wolverhampton Annual Health Report.

Though Wolverhampton may not seem a very desirable place to live in to the passing stranger, more especially if he passes only along the railway lines, nevertheless the annual report of Dr. H. Malet shows that the health of the borough compares very favourably with the health of other large industrial centres. During 1906 the total death-rate was only 14·8 per 1000 and the birth-rate was 27·5 per 1000. Small-pox was absent and typhoid fever was rare, but measles and diphtheria were more than usually prevalent.

July 9th.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

Hospital Sunday and Saturday Funds: First interim Distribution of £10,000.

THE distribution committee of the above-named funds met at the town hall on July 1st, when the treasurer announced that an interim distribution would be made to the various charities of £10,000 on the same basis as last year. The Royal Infirmary will receive £2125, the Royal Southern Hospital £1475, the David Lewis Northern Hospital £1275, and the Stanley Hospital £800. The other charities will receive smaller amounts proportionate to the number of beds in each. The honorary treasurer said that with regard to the guarantee of the 10 per cent. gift by Alderman Cohen and his ten friends the Sunday Fund so far showed an increase over last year of £882. The Saturday Fund is not expected to be any less than last year, so that the committee anticipated asking the 11 guarantors of 10 per cent. for £88 each, or £968 altogether.

The Liverpool Water-supply.

In his annual report the water engineer of the Liverpool corporation stated that Liverpool is now supplying more than 1,000,000 people with water and the sources are so abundant that to add Birkenhead to the list could not

seriously affect the supply. The water is supplied by the river Vyrnwy.

Presentation to Mr. James Taylor of Chester.

In the council chamber of the Chester town-hall on July 4th a presentation of suitable gifts, subscribed for by the people of Chester, to Mr. James Taylor, F.R.C.S. Eng., took place on the occasion of his retirement from the post of honorary surgeon to the Chester Infirmary. Mr. Taylor had been connected with the infirmary for 40 years, first as house-surgeon and afterwards as honorary surgeon. The Mayor of Chester presided over a large and representative gathering. The honorary secretary announced that the amount of subscriptions was £448 8*s.* 6*d.*, and the expenditure £249 5*s.* 4*d.* The mayor asked Mr. Taylor's acceptance of an illuminated address, which read as follows:—

TO JAMES TAYLOR, ESQ., F.R.C.S., J.P.

DEAR SIR,—The occasion of your retirement from the position of senior honorary surgeon to the Chester Infirmary is an opportune time in which to bear public testimony to the exceptional services you have rendered to this city and neighbourhood during the last 40 years. All that period you have been connected with the infirmary as house surgeon, then honorary surgeon, and ultimately senior honorary surgeon, and we fully recognise that you have partaken in so auspicious a degree in all the works and efforts that have been undertaken to promote the usefulness of that valuable institution since 1866. It is absolutely accurate to say that your services in this direction have been unique. Many of us are members of the honourable profession which you so greatly adorn by your widely acknowledged skill, your cultivated ability, and your abounding labours. Many of us are numbered among the great company of the grateful patients, and all of us are comprised in the wide circle of your friends and admirers. We beg to ask you to accept this clock and candelabra, illuminated address, and cheque as evidence of our affection and best wishes. We earnestly trust you may be long spared to pursue your useful and beneficent course, and that you, Mrs. Taylor, and your family may be abundantly blessed.

Yours truly,

JOHN JONES (Mayor),
EDWARD EVANS LLOYD (Chairman of the Board of Management of the Chester Infirmary),
G. WRIGHT, M.D. (President of the Chester Medical Society),
JOHN ROBERTS, M.D. (Honorary Treasurer),
A. G. HAMILTON, M.D. (Honorary Secretary).

Mr. J. R. Thomson, on behalf of the Chester Infirmary management committee, presented Mr. Taylor with a clock and candelabra and Mrs. Taylor was presented on behalf of the subscribers with a silver tea and coffee service. The fourth presentation, consisting of a cheque for £199 10*s.* 8*d.*, was made to Mr. Taylor by his old friend and fellow student Dr. John Roberts. Mr. Taylor, who received quite an ovation, expressed his thanks in suitable and feeling terms.

Opening of the New Infirmary at the Clatterbridge Workhouse.

The extensive buildings and improvements carried out at the Clatterbridge workhouse were formally opened last week. The new infirmary affords accommodation for 46 patients, having four large wards with ten beds in each and six separate wards. The brick walls have high dadoes of glazed tiles and the floors are of polished wood. The whole premises are admirable as far as ventilation and cleanliness could make them. Besides the wards there are day rooms and wide airy balconies. The new infirmary is connected with the older building by means of a covered way. The nurses' home and laundry are also thoroughly up-to-date.

July 9th.

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.)

Midwives in Swansea.

THE Swansea corporation, as the supervising authority under the Midwives Act, has appointed a woman inspector of midwives, and during the few months she has been in office a great improvement is said to have taken place in the methods and equipment of the registered but uncertificated midwives who practise in the town. Of the 88 midwives who are on the Swansea register only nine hold certificates from institutions or societies recognised by the Central Midwives Board. The inspector of midwives, jointly with the woman sanitary inspector employed by the corporation, visits the homes of newly born children in Swansea to ascertain the conditions of their feeding and to render advisory help where needed. There would appear to be plenty of work for these two officials, for the infantile mortality rate in Swansea has averaged for many years 160 per 1000 births. In the year 1906, of the 501 deaths of children under one year of age, as many as 141 died before reaching the age of one month, while in some parts of the town more than one-third of the deaths under one year of age occurred before the end of one month.

Newport Port Sanitary Authority.

In his annual report to the Newport (Mon.) Port Sanitary Authority the medical officer of health (Dr. J. Howard-Jones) draws attention to the unsatisfactory accommodation provided for the crew in many of the new British ships. Although vessels are now built of greater tonnage than formerly, inadequate provision is made for the needs of the crew in order that as large an amount of cargo may be carried as possible. After the vessels have been passed by the Board of Trade and arrive at a British port during a voyage they come under the notice of the port sanitary authority and it is not an uncommon occurrence, Dr. Howard-Jones declares, for structural alterations to be insisted upon in order to remedy nuisances quite soon after the vessel has been passed by the Board of Trade. This action is naturally a source of annoyance and expense to the owners and he suggests that there should be some recognised responsible authority whose duty it would be to make definite regulations, when better accommodation for the crew would frequently be provided without any extra cost.

A Low Birth-rate and Plumbo-solvent Water.

The birth-rate in Pontypridd has always been high and during the past few years the steady fall in the birth-rate which has been such a noticeable feature in other parts of the country has been entirely absent from the Pontypridd records. The reverse, indeed, has been the case for during the five years 1901–05 the Pontypridd birth-rate averaged 37·1 per 1000, while in the preceding five years it averaged 30·1 per 1000. In 1905 it was 36 per 1000, and in 1906 there was a sudden drop to 29·7 per 1000. In his annual report the medical officer of health (Mr. Howard Davies) says that it is difficult to say how far this low birth-rate was prejudicially affected by the injurious influences of the public water-supply. Examinations of the water which were made at different times during the year revealed the presence of one-fourteenth of a grain of lead per gallon. Mr. Davies urges that steps should be taken to counteract this plumbo-solvent action of the water which is obtained from high moorlands situated some 12 or 14 miles from Pontypridd.

Presentation to Dr. George Crowe.

The members of the Worcestershire and Herefordshire branch of the British Medical Association entertained Dr. George W. Crowe of Worcester at a dinner at Malvern on June 27th. The occasion was marked by the presentation to Dr. Crowe of a piece of plate by Mr. T. Bates on behalf of the members of the branch. Dr. Crowe was the first secretary of the branch upon its formation in the year 1880 and was continuously re-elected each year until 1906. He represented the branch upon the council of the Association from 1884 until two years ago when owing to the alteration in the constitution the representation upon the council was linked with that of Gloucestershire.

Winsley Sanatorium.

The annual meeting of the subscribers to the Winsley Sanatorium was held on July 3rd under the presidency of Dr. Lionel A. Weatherly. The medical report was satisfactory and the financial statement showed that the adverse balance on the year was £180, compared with an adverse balance of £650 on the previous year.

A Portrait of Dr. John Beddoe.

On July 5th the Right Hon. Lewis Fry formally presented to the city of Bristol a portrait of Dr. John Beddoe, who formerly practised at Clifton and now lives in retirement at Bradford-on-Avon (Wilts). The portrait was painted by Miss E. B. Warn and was purchased by subscription; it will be placed in the art gallery of the city. The frame of the painting has the following inscription: "John Beddoe, M.D., F.R.S., by Miss E. B. Warn, presented by some of his friends, 1907." Mr. Fry, in the course of his speech, alluded to the distinguished career and high scientific attainments of Dr. Beddoe, who they were all proud to think of as a Bristolian. Dr. Beddoe made an interesting little speech, in which he said that he had striven to do his duty for the city and hoped that he had not altogether failed.

July 9th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

The Channel Fleet in the Firth of Forth.

THE presence of the Channel Fleet in the Firth of Forth has been taken advantage of by the Royal College of Physicians of Edinburgh to entertain the medical officers of the fleet. The entertainment took the form of a luncheon given on July 6th, in the hall of the College, presided over by the President of the College, Dr. C. E. Underhill. Owing to the shortness of the notice many of the Fellows of the College who might have been present were unavoidably absent.

Centenary of the Royal Edinburgh Asylum.

The Royal Edinburgh Asylum completes the 100th year of its existence, having received its Royal Charter on May 2nd, 1807. In view of this invitations have been issued to a garden party to be held at Craig House on July 12th. The east house was opened for patients on July 9th, 1813, and a west house was determined on in 1837. The first physician-superintendent was Dr. Mackinnon appointed in 1840. The following year it became a Royal asylum, Queen Victoria becoming its patron. In 1846 Dr. S. Rae was appointed physician-superintendent. In 1873 he was succeeded by Dr. T. S. Clouston who still occupies the position with undiminished vigour and whose administrative and clinical abilities have so largely contributed to give the asylum the distinguished position which it occupies.

The Discussion on General Paralysis at the Edinburgh Medico-Chirurgical Society.

As will be seen from the report of the meeting of this society held on July 3rd Dr. W. Ford Robertson and Dr. G. D. McRae have carried their investigations into general paralysis an important step further. Unfortunately, there was no attempt on the part of the officials of the society to ensure a full discussion of this work. The communication was preceded by an interesting surgical paper which gave rise to some discussion which would have been added to had there been time. Short as the discussion was it encroached upon the time allowable for the more important paper which followed. The discussion, it will be seen, was confined to alienists, while not a general physician, pathologist, or bacteriologist took part in it. The subject is so very important that it is a matter of great regret that it was not fully and freely threshed out. Such a discussion might have been invaluable to the investigators themselves.

School of Medicine of the Royal Colleges, Edinburgh.

At a meeting of the governing board of the School of Medicine of the Royal Colleges, Edinburgh, the secretary and registrar, Mr. R. N. Ramsay, reported that the number of students attending the school during the winter session, 1906–07, was 1048, and during the summer session, 1907, the number was 961.

Kingseat Asylum.

The estimate of the maintenance account issued in connexion with the City District Lunacy Board for the year ending May 15th next shows a total of £11,556, compared with £10,380 last year. The account is based on the average number of patients in Kingseat Asylum for the year ending May 15th last being 414, and the probable number of admissions for the year ending May 15th next being 86, giving a total of 500, less 80 as the probable number of deaths and discharges during the year, and an average number of 10 boarded out, reducing the average number to 410, or with 70 officials and attendants added to 480. From the estimated expenditure of £11,556 falls to be deducted the balance of £485 at the credit of the account for the past year, leaving the sum to be provided at £11,070. The estimated average cost per head per annum on 410 inmates is £27. Last year the receipts were made up as follows: balance at credit of close of last account £665; board of patients, £10,358; and farm and garden, £3403; making with receipts not falling under the above heads a total of £14,439. The payments were: maintenance of patients and expenses, £10,381; furnishings and furniture, £267; farm and garden, £3303; and balance at credit at May 15th last, £485. At a committee meeting of the Aberdeen District Lunacy Board it was agreed that the cost for maintenance of inmates of Kingseat Asylum should be fixed at £27 per annum for the current year in place of £25 last year. A "vidimus" was submitted showing the sum to be raised by assessment under the heading of "providing accounts" for Kingseat Asylum to be £10,000—an increase of about £500 on the sum required for last year, and it was agreed to intimate to the General Board of Lunacy that this amount would have to be rated for. The present rate is 1·735*d.* both to owners and occupants and the increase will be a mere fraction. This rate is levied by the town council.

Dundee Sanatorium for Consumptives.

At the annual meeting of the supporters of the Dundee Sanatorium it was reported that the average number of patients in the sanatorium during the year was 36. The average sum received per patient throughout the year was one guinea per week, while the cost to the institution was 38*s.* The chairman stated that the accounts had closed with a deficit of £670, which had, however, been entirely cleared off by an anonymous London friend. The deficit was due to the fact that the cost per patient was much in excess of the average sum received from local patients whom the committee felt it was bound to admit to the benefits of the institution.

Aberdeen University Anatomical and Anthropometrical Society.

A meeting of this society was held in the anatomical department of Marischal College on July 6th, Professor R. W. Reid presiding. Intimation was made by the chairman of the presentation to the museum of a short cist by Mr. W. Bean Moir of Scotstown. Dr. A. Low gave a short description of the cist and its contents. Papers on anatomical subjects were read by Mr. J. Fettes and Mr. S. G. Trail. The following office-bearers were appointed for the ensuing year:—President: Professor R. W. Reid. Vice-Presidents: Dr. Alexander Low, Dr. R. W. Salmond, and Mr. James Watt. Secretary: Mr. N. J. Calder. Recording secretary: Mr. J. W. Fiddes. Treasurer: Mr. R. Richards.

The Montrose Asylum Tragedy: the Official Inquiry.

The result of the inquiry by the house committee of the Montrose Asylum into the circumstances connected with the recent tragedy was submitted to the managers for their approval at a meeting held last week. The report stated that the committee had carefully inspected the scene of the tragedy and had taken the evidence of Dr. J. G. Havelock and various other officials. The committee was of opinion that no blame could be attached to any of the officials. It was clearly proved that Simpson was a well-conducted and peaceable inmate and that he was in feeble health at the time of the fatal occurrence. Searching inquiry was also made into the management of the male part of the hospital during the night, and the committee recommends: (1) that instead of one night attendant there should be two, with the view of giving increased inspection to the various wards in the hospital; (2) that another sub-matron should be appointed to supervise the night attendants in the whole of the various buildings; and (3) that night attendants should not be allowed to undertake any work during the day without the sanction of the medical superintendent. In the course of the inquiry it was elicited that the night attendant had been working on a farm for a number of hours every forenoon. The report was unanimously approved of by the managers.

July 9th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Rainfall in June in Ulster.

JUNE has been the wettest month, it is said, for 20 years, rain falling on 26 days to the amount of 5·63 inches. In June, 1906, the rainfall was only 1·23 inches, and in the same year up to the end of June 15·43 inches fell, while this year, for the same period, 20·62 inches have fallen. In 1889 the rainfall in June was only 0·3 of an inch. An inch of water represents 100 tons per acre.

Cerebro-spinal Fever in Belfast.

During the week ending June 29th 11 cases of "spotted fever" were notified, as against 16 in the previous week. Since the meeting of the public health committee on June 27th up to the next meeting on July 4th only five cases

had been notified, as against 14 in the previous week, and for the week ended Saturday, June 29th, six deaths were reported, as against 20 in the week ended June 22nd. Of 87 cases in the fever hospital at Purdysburn 37 were on July 4th suffering from cerebro-spinal meningitis.

The Mater Infirmorum Hospital, Belfast.

As a result of the Saturday collection (June 29th) a total of £1142 (including £120 handed in at the hospital) was obtained, a sum larger than that of last year.

Cowan Heron Cottage Hospital, Dromore.

At the seventh annual meeting of the governors and subscribers held on July 4th, references having been made to the gratifying results of the year's working and to the increase in last year's subscriptions, Mr. W. C. Heron, D.L., who presided, stated that he was anxious to assist still further the good work being done and to that end was at present having plans prepared for the extension of the hospital buildings by the erection of two convalescent wards.

The Belfast Asylum.

At present there are 678 patients in the Belfast Asylum, 398 at Purdysburn new asylum, and at the Ballymena annexe 62. At a meeting of the asylum committee held on July 8th it was decided, at the request of one of the members, to make out a list of the paying patients.

July 9th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

A Monument to Professor Brouardel.

A VERY influential committee has been formed for the purpose of erecting in Paris a monument to Professor Brouardel who died about a year ago and an obituary notice of whom appeared in THE LANCET of August 11th, 1906. Professor Brouardel was for many years a representative figure in the medical profession in France and his numerous writings, as well as his occupancy of important positions in international congresses, made his name universally known in medical circles. The committee has the patronage of the President of the Republic, the Minister of the Interior, and the Minister of Public Instruction. The President of the committee is M. E. Loubet and the list of vice-presidents contains more than a hundred names of persons eminent both in science and in public life. Subscriptions to the fund are received by MM. J. B. Baillière et Fils, 19, Rue Hautefeuille, Paris.

Proposed Non-medical Control of Medical and Surgical Work in the Paris Hospitals.

The general council of the Sociétés Médicales d'Arrondissement de Paris et de la Seine has been recently considering a somewhat unusual question. The council had heard that M. Soller had offered to provide a fund for the creation of special departments which, though under non-medical direction, would have control over the medical and surgical work of the Paris hospitals. The council was of opinion that scientific knowledge could not be usefully applied in medical questions except by persons who had received a medical education, and in the interests of the patients it was necessary that the physicians and surgeons should be at liberty to employ whatever treatment they conscientiously believed to be best. A medical man was legally responsible for any imprudent or culpable act (*faute lourde*) committed in his professional work. The council was therefore strongly opposed to the suggested creation of a controlling authority composed of persons who had not received a medical training.

The Death of the Princess Henrietta, Daughter of Charles I. of England.

In a paper read at a recent meeting of the Société de Médecine de Paris Professor Pozzi discussed some very interesting questions connected with the last illness of the Princess Henrietta, daughter of King Charles I. of England and wife of the Duke of Orleans. He said that the principal explanations which had been suggested were poison or acute peritonitis which might have proceeded either from perforation of a gastric ulcer or from perforation of a gangrenous appendix. Professor Pozzi, however, from an examination of the clinical and anatomical references in contemporary accounts of the case, has come to the conclusion that the death of the Princess in nine hours was due to profuse internal hæmorrhage caused by the rupture of an extra-uterine pregnancy in the first or second month. He drew attention to the complete agreement of the classical symptoms of this condition with those which were observed in the Princess's illness. He said that the absence of vomiting was fatal to the hypotheses of poisoning or peritonitis. As the lower part of the abdomen was not examined at the necropsy out of respect for the rank of the deceased, it was not surprising that pelvic hæmorrhage was overlooked.

Appointments.

At a meeting of the Academy of Medicine held on July 2nd M. Bar was appointed a member in the section of obstetrics in succession to the late Professor Budin. The council of the Faculty of Medicine have made the following appointments to vacant chairs: M. Bar to the chair of clinical obstetrics, in succession to Professor Budin; M. Quénu to the chair of *médecine opératoire*, in succession to Professor Terrier; and M. Prenant of Nancy to the chair of histology, in succession to M. Mathias Duval.

July 9th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

Researches on Cancer.

Professor von Leyden and Dr. Bergell, writing to the *Deutsche Medizinische Wochenschrift*, have made an interesting communication on cancer. They said that the endeavours to destroy cancer by certain ferments, such as pancreatin, were of no practical use, as by injections of this substance not only cancerous but also healthy tissue was attacked. During the course of their experiments they also examined other ferments of animal origin and in the liver they found one which acted on peptones which were resistant even against pancreatin. Injections of small quantities of this ferment into malignant growths produced a quickly progressive necrosis of the tissue. The naked-eye appearances consisted in softening and liquefaction of the tissue; microscopically it was seen that necrosis had occurred and that the nuclei of the cells had lost their staining capacity. Caseous degeneration was not observed, except in malignant growths occurring in mice. The principal feature of the injection was the selection made by the ferment between cancerous and healthy tissue, the necrosis being limited only to the malignant growth. It was not yet possible to use this procedure for therapeutic purposes, but the discovery was very important from a theoretical point of view. There was a marked difference between pancreatin and the liver ferment. Pancreatin digested the isolated albuminous substance of cancer and also the growth in the test-tube but produced only a small circumscribed solvent effect in the living growth. The liver ferment acted neither on the isolated albuminous constituents of cancer nor on the growth in a test-tube, but it had an extremely powerful action on the living growth, on carcinoma as well as on sarcoma. This fact led to the conclusion that the normal organism contained a specific hydrolytic ferment, deficiency of which caused the growth to increase.

The Treatment of Syphilis by Atoxyl.

Professor Lassar has given in the *Berliner Klinische Wochenschrift* some details of the treatment of syphilis by atoxyl. He said that the efficacy of atoxyl against sleeping sickness, a disease caused by a protozoon, led to the conclusion that this remedy might be equally efficacious against other protozoal diseases. As the protozoal nature of syphilis has been acknowledged since the discovery of the spirochæta pallida by the late Dr. Schaudinn, atoxyl was tried as a remedy against this disease. Following the method recommended by Dr. Salmon of Paris, 0·5 gramme of atoxyl in a solution of 10 per cent. strength was injected every second day, the result being that the symptoms of recent syphilis disappeared. Undesirable complications, however, were caused by the cumulative action of the drug, especially disturbance of the patient's general health, but this ceased at once when the administration of atoxyl was stopped. A smaller dose was therefore used by Professor Lassar with excellent results in 25 cases of both recent and long-standing syphilis. Primary ulcers healed, papules underwent a regressive metamorphosis, annular forms of the exanthem faded, and

gummatous infiltrations dried up. The effect of this treatment was, just as in the case of mercurial treatment, different in individual patients, showing itself sometimes quickly and sometimes slowly. In one case only no effect at all was observed, so that a course of mercury had to be given. It was remarkable that the spirochætæ continued to be present in the cases treated successfully by atoxyl.—The atoxyl treatment of syphilis was also discussed by Professor Lesser before a meeting of the Berlin Society of Internal Medicine. He first spoke against excision of the primary chancre and against the administration of mercury previously to the appearance of the secondary symptoms, both of these procedures being inadvisable in his opinion. He recommended the intermittent treatment according to Fournier's method during the first years after the infection. According to him the spirochætæ were not destroyed by mercury, although their virulence became diminished. Injections of atoxyl in large doses (six grammes have been administered) had a beneficial effect. The action of atoxyl was especially remarkable in "galloping" syphilis, where an improvement was obtained much more quickly than by mercury. He had also observed undesirable symptoms, especially albuminuria, so that caution in the use of the drug was absolutely necessary.

The Prevention of Tuberculosis.

The annual conferences of the German committee for the prevention of tuberculosis and of the medical men holding appointments at sanatoriums connected with the anti-tuberculous movement were held at Berlin on May 20th and on May 24th and 25th respectively. Count Posadowsky presided over the meeting of the committee and Professor Fraenkel over that of the medical men. At the meeting of the committee Herr Kehl read a paper on the Struggle against Tuberculosis in the Country, explaining the reasons why the mortality of tuberculosis in the country exceeded the average mortality of the disease. He strongly recommended the establishment of small hospitals in rural districts where these institutions were evidently not numerous enough to meet the wants of the population. In addition to the hospitals he recommended that nurses brought up in the country and trained for a shorter period than those working in the towns should be appointed in rural districts. There ought to be courses of instruction for nurses and lectures for ladies who might eventually desire to act as honorary nurses in case of need, and a system of dispensaries ought to be established all over the country districts which hitherto had been left somewhat in the background as compared with the amount of work done for the towns. Another subject discussed in the meeting concerned the sanatoriums which were recently so unfavourably criticised, as reported in THE LANCET of May 11th, 1907, page 1328. All the speakers agreed that these attacks were quite unfounded. In the meeting of medical men addresses were delivered on the genesis of pulmonary tuberculosis from the bronchial glands through the lymphatics, and radiograms were shown in which the progress of tuberculous processes was seen. The principal subject of discussion was the tuberculin treatment. It was generally agreed that good results were obtained, especially by the old tuberculin of Professor Robert Koch; whilst some of the speakers preferred Marmorek's serum. Dr. Neissen of Stettin recommended the administration of an emulsion of tubercle bacilli in severe cases. The tuberculin treatment must of course be combined with hygienic and dietetic measures. Prejudicial effects due to the administration of tuberculin were not observed. No trustworthy report could be obtained on the effect of Professor von Behring's tularg, as he distributed the compound only under the condition that reports were to be made exclusively to himself.

Bad Brückenau.

The Royal State Ministry of Finance, which has charge of the Royal Bavarian Baths, invited the medical men of Munich to pay a visit of inspection to the Royal Mineral Baths of Kissingen and Brückenau. These gentlemen therefore travelled on June 24th in a special train placed at their disposal to Kissingen and thence by automobile to Bad Brückenau. They especially visited the Wernarzer, Stahl, and Sinnberger springs which are renowned for their healing properties and entirely approved of the accommodation provided there; not a small amount of their praise was expended on the carbonic acid baths which are made as efficient as possible. In the afternoon a dinner was given by Kgl. Kommerzienrat Roth to the medical men and was attended by His Excellency Herr Kgl. Staatsminister von Pfaff and by other Government officials, altogether about 100 persons. Just after 5 o'clock in the evening the medical men travelled back to Munich by special train after expressing the greatest satisfaction with their visit to Bad Brückenau.

July 8th.

COPENHAGEN.

(FROM OUR OWN CORRESPONDENT.)

Appointment of an Englishman as a University Professor in Sweden.

IT would seem that some dissatisfaction has been aroused in Swedish medical circles on account of the Medical Faculty of the University in Lund having decided to offer the recently established chair of pharmacology to a foreigner, Mr. Ernst Overton, Ph.D. Mr. Overton is by birth an Englishman but he completed his academical career in Zürich, where for some time he lectured on biology. His latest appointment was as assistant to the famous physiologist, Professor von Frey, in Würzburg. The fact that no Swedish pharmacologist was available at the time in question forced the Medical Faculty of the University of Lund to look abroad for a suitable man, and considering the excellent scientific qualifications of Mr. Overton, there can be no doubt that the choice has been very fortunate. The objectors to his appointment, however, lay stress on the circumstance that he has not passed any medical examination, as also on the regulation providing that foreigners appointed to chairs in the Swedish universities must profess the pure evangelical doctrine in religion. The first objection will undoubtedly form no serious obstacle as Mr. Overton's work in biology and physiology is an excellent preparation for the modern teaching of pharmacology; and the second will probably be met in a way suggested by the Chancellor of the University, Bishop Billing—namely, that the question be left undecided until Mr. Overton has acquired Swedish nationality when the difficulty will cease to exist.

The Treatment of Tuberculous Laryngitis.

Dr. S. Bang, the medical director of the Tuberculosis Sanatorium of Silkeborg in Denmark, has constructed an apparatus for the treatment of tuberculous laryngitis by means of the electric light. Five or six years ago, when a member of the staff of the Finsen Light Institute, he made the preliminary experiments that have resulted in the simple and efficient apparatus which he has now been using for the last three years. As it is necessary to employ only "cold light" the source of light that has been selected is the arc lamp with iron electrodes, originally devised by Dr. Bang. The rays of this lamp are received by a rectangular quartz prism placed at the narrow end of a metal funnel which the patient takes into his mouth and from the hypotenuse of this prism the rays are totally reflected into the larynx. As with a current of 10 or 12 ampères about two minutes suffice to produce a very strong typical light reaction on the interior of the larynx, the surgeon can manipulate the apparatus during the whole exposure and can make sure that the rays really reach the diseased parts of the larynx. Dr. Bang thinks that the method will prove useful only in those cases in which it is possible to direct the reflected rays at a right angle to the affected area.

July 1st.

VIENNA.

(FROM OUR OWN CORRESPONDENT.)

Diagnostic Injection of Tuberculin in an Infant.

As medical men very seldom have an opportunity of witnessing the infection of a patient with tuberculosis and the subsequent development of the disease the following case, shown by Dr. von Perquet at a meeting of the Gesellschaft der Aerzte, possesses considerable interest. A child of five weeks of age was brought to him with eczema of the right cheek. This soon improved but an ulcer remained for some time, the child began to lose weight, and the family history revealed the influence of pulmonary tuberculosis. Three weeks later the glands of the neck became markedly enlarged, bronchitis followed, and when the child was 16

weeks old both the mother and the child were inoculated with tuberculin as a diagnostic measure with a positive result. This is the youngest patient on record in whom the injection of tuberculin proved the presence of tuberculous material in the system. When the child was five months old a tuberculous manifestation called tuberculid appeared on the skin, so that the infection was now proved even clinically. The site of the diagnostic injection, which at the same time is used for therapeutic injection, is a small pale red papule about a quarter of an inch in diameter.

A Case of Complicated Cataract.

Professor Königstein showed at the same meeting a man who was suffering from cataract of the left eye and who had been sent to him from a distant country. The patient, whose right eye was very myopic, had six years ago sought relief for his cataract, but operation was refused on account of the perception of light being unsatisfactory. The vision subsequently improved a little, but he wished to be cured of his cataract. The appearance of the eye was very unusual and interesting. The entire anterior chamber was filled with glittering points, especially during lateral illumination, as if the cornea were studded with gold-dust. Most likely the reason of this remarkable phenomenon was to be found in very small particles of cholesterin lying in close apposition to Descemet's membrane and probably imbedded in the corneal parenchyma also. The pigmentation of these particles was due most likely to hæmoglobin. The formation of these bright points might be explained on the hypothesis that some time ago the capsule of the lens had burst and the substantia propria of the lens had undergone a regressive metamorphosis which produced the cholesterin. Bleeding often occurred in degenerated eyes and thus the pigmentation was easily accounted for.

The Collection and Disposal of Household Refuse.

The question of dealing with the household refuse produced in a city of 2,000,000 inhabitants has for some time been engaging attention and the following results have been obtained from the experiments conducted by the municipal authorities. As regards the disposal of the dry material collected in the dustbins, the method giving the best result has been combustion. The refuse is collected by carts provided with special receptacles. All the dustbins are covered square boxes of a uniform shape and size, about 75 centimetres long, 50 centimetres high, and 50 centimetres wide. These boxes are pushed into the receptacle of the car, which is then closed by a lid, and the box is uncovered and emptied by turning a handle without any dust escaping into the street. The refuse is then conveyed to the "combustorium," where it is burned, except such portions as can be used otherwise. Old metal, tin ware, and glass are melted down in a special apparatus and used for industrial purposes, whilst the combustible material is used to generate steam for driving two dynamos for lighting the building. As yet these trials have been conducted on a small scale, but if the system is approved of and the refuse collected from the whole city is treated in this way the amount of energy obtained will be very considerable. The treatment of wet refuse, especially of an organic nature, has not hitherto yielded satisfactory results, and another series of experiments with this material has been instituted in the hope of using it as manure. The cost of refuse disposal on the system above described is very small and the process is even expected to be profitable for the municipality if conducted on a large scale, whilst it is undoubtedly the best way from the standpoint of hygiene and medicine. In particular, the method of collecting refuse without scattering dust is sure to be imitated by many corporations, whilst a fruitful source of contamination of the air, especially during the busiest hours of the day, is thus easily done away with.

Professor Chrobak's Resignation.

Professor Chrobak, the celebrated gynæcologist, some time ago announced his intention of retiring from his academic position, but illness has unfortunately compelled him to hasten the preliminary stages and a few days ago, when the lectures of the summer term were concluded, he took leave of his pupils and his clinic. A large number of students, former and present assistants, and friends of the professor assembled in the lecture room of the gynæcological clinic to pay their respects. Representatives of the students and of the clinical staff bade the eminent teacher farewell and dwelt in their speeches on the great influence which he exercised on the minds of his surgical contemporaries. His conservative mind, his promptitude in action, his precision, and his interest in both patients and pupils were sufficient to impress his personality on the memory of every one of his friends. In his reply Professor Chrobak confessed that his one ruling principle which he wished to leave to his pupils was, *Primum non nocere* (first of all not to do any harm). This maxim ought to be kept in mind by every member of the profession, and especially by the obstetric surgeon, who was so often called on to assist nature in a physiological, not a pathological, condition. He admitted that he found it very hard to relinquish his post, to which he had devoted so many years, but failing health now left him no option. Meanwhile, until the successor of Professor Chrobak takes over the new clinic in the newly built General Hospital Dr. Peham, the last assistant of Professor Chrobak, will temporarily carry on all his official duties, including the examination of the candidates at the so-called "rigorosum" or severe final examination for the degree of M.D. This "interregnum" will continue for at least a year, as Professor von Rosthorn is not expected to relinquish his present position before the summer of 1908.

A Case of Malformation of the Skull and Clavicles.

A rare combination of rudimentary clavicles and anomalies in the conformation of the skull, described by Santon and Pierre Marie under the name of "*dysostose-cléido crânienne*," was shown by Dr. Fuchs at a recent meeting of the Neurological Society. The patient was a man, 23 years old, and was being treated for catarrh of the eyes, when the remarkable conformation of his skull attracted attention. He was one of twins, but no other member of the family was abnormally developed; on the contrary, they were all tall and well built, whilst he was less that 5 feet (148 centimetres) in height. His head was disproportionally large, measuring 24 inches in circumference, 16 inches in length, and 17 inches in breadth. The fontanelles and the sutures were still open. His clavicles were represented only by short floating, moveable, osseous bands, about two inches long, so that his shoulders could be brought together to meet in front. The upper and lower jaws were also rudimentary, containing only ten teeth in all. X-ray photographs showed that the rest of the skeleton presented no abnormal formation. The man's intellectual and psychical faculties were not impaired and he was better educated than a person of his station in life usually was. His infraspinatus muscles were in a condition of aplasia so that his shoulder blades were more visible than normal.

July 8th.

CONSTANTINOPLE.

(FROM OUR OWN CORRESPONDENT.)

The Water-supply of Constantinople.

CONSTANTINOPLE is supplied with drinkable water from several different reservoirs, some of which are of very large dimensions. These reservoirs are commonly called "the bends," and the chief and most important among them are seven in number. The best known are the "bends" of Topouzlou, Validé-Sultane, Sultan-Mahmoud, Belgrad, Aïvala, and Tonourlou. The first two, constructed two centuries ago, supply with water the European quarter Pera and its adjoining districts. The numerous fountains of Stamboul receive their water from the other four reservoirs. The largest "bend" is that near the village of Belgrad, several hours distant from the metropolis. It receives water from three different rivers and requires one hour and a half to be visited in all its length. It is situated in a most picturesque locality and forms in the spring and summer months a much-frequented and sought-after place for excursions. Nearer to the capital are the reservoirs of Validé-Sultane, Sultan-Mahmoud, and Topouzlou. The first is 114 years old and is very solidly built. Its height is over ten metres. The thickness of its walls is seven metres. It bears an inscription giving the name of the foundress and reproduces in chronograms the year of the *hegira* 1211. The most modern "bend" is that constructed by Sultan-Mahmoud (the "Reformer"), who reigned from 1808 till 1839. It is considerably larger than the former reservoir, its height measuring about 16 metres. The waters of the "bends" come out through numerous taps, pass through elaborate wire gratings, traverse an aqueduct, and are then

gathered up in subterranean conduits for final distribution. At present all the reservoirs are well filled with water in consequence of the late frequent rains. As a rule, not all the taps are working at a time. Of the 60 taps, for instance, supplying Pera with drinkable water only 25 are opened. The supply is, however, perfectly sufficient for the needs of the population. The quality of the water is not always of a high standard of purity. On several occasions chemical and microscopical analyses have been made with unsatisfactory results. It has been found that the distant sources especially are frequently contaminated. Some time ago a special commission was instituted for the purpose of investigating the matter, so important for the health and well-being of the general public.

Regulations Concerning the Sale of Fish.

The municipality of Constantinople has considered and accepted the following proposals concerning the sale of fish on the fish markets submitted by the commission on public hygiene. The measures, which, if properly executed, will prove of great benefit to the general health of the population, are as follows: 1. Fish must henceforward never be exposed for sale in the open street in receptacles of doubtful cleanliness. 2. Fish must be sold only in shops paved and tessellated with marble (which is so cheap in the East) or with plaques of the so-called Malta stone. 3. The fish must be washed and kept fresh for consumption by a special wire system devised by the commission on public hygiene. 4. The municipal inspectors will visit the fish shops every day and will confiscate and throw into the sea any fish of doubtful freshness, inflicting at the same time severe punishments on contraveners. The municipality has also decided to erect spacious fish markets in the principal quarters of the capital as well as in some suburbs and in Cadikeuy (the ancient Chalcedon) on the Asiatic shore.

Miscellaneous Notes.

Butter, whether of native origin or imported from other countries, will henceforward be submitted to a strict chemical and microscopical examination at all the custom houses, as it has been found almost always to be adulterated. —The large population of Aleppo will be provided with canalisation works and good drinkable water from the reservoir near Heilani. A "mazbata" has been signed by Nazim Pasha and submitted to the Sublime Porte.—From the mortality returns of last week it appears that no case of cerebro-spinal meningitis occurred anywhere in Constantinople or its suburbs. Scarlet fever, however, is still raging in some districts on the Golden Horn.

July 2nd.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

The Reduction in Plague Mortality.

THE recrudescence of plague this year, the severest which India has experienced, has during the past few weeks rapidly abated. At the end of May 52,098 deaths in one week were recorded but a rapid drop has brought the mortality during the past week to less than 30,000. The decline is general but the chief centres are still in the Punjab and the United Provinces. The disease has sunk into comparative insignificance in the Bombay Presidency where formerly it was so extensive and so virulent.

A Dangerous Plague Scare in the Punjab.

A plague scare of a serious character has recently occurred in the Punjab. Two men were charged with having circulated false reports with intent to cause alarm to the public to the effect that plague was being widely spread through the instrumentality of agents of the Government who were employed in poisoning wells and streams with plague germs. One man at a public meeting stated that plague was in reality non-existent but that the Government was putting poison into wells and streams in order to kill off the surplus population. About the same time the people of the district were thrown into a wild state of excitement by the finding of some balls of flour or similar substance in various tanks and fountains which was the work of an accomplice. The chief culprit was sentenced to two years' rigorous imprisonment and the accomplice to 18 months.

Cholera in Kashmir.

In addition to plague Kashmir has been experiencing a severe epidemic of cholera. For the week ending June 10th no less than 2293 cases and 1315 deaths were reported.

The Practice of "Sati."

The practice of sati still survives in some parts of India though the cases reported are few and far between. Though prohibited by law the practice is apparently upheld even by educated Indians. In a Calcutta native paper there was recently given an account of a case and the editorial article was couched in the most approving tones. A Hindu in bad health went to Puri and died there. His wife when she heard of his death poisoned herself with opium, but before taking this course she wrote a note to her brother: "Don't grieve for me, brother. I follow him to whom I was intrusted by my parents." Satis by poison, known as "cold" satis or "white" satis, are far more common in India, particularly in Bengal, than is generally believed. It is argued that there is something pathetic and noble in the attitude of a wife who refuses to outlive her husband. The writer goes on to say: "Before the law interfered the burning alive of widows was considered obligatory by certain castes, and in view of the opinions expressed by educated Bengali gentlemen the question arises whether sati would not be introduced as one of the consequences of swaraj." I may add that this swaraj is a sort of reaction to old Indian ways and traditions as against the adoption of anything belonging to Western civilisation.

The Grant Medical College, Bombay.

The annual report of the Grant Medical College, Bombay, for the year 1906–07 states that the new M.B., B.S. degrees were passed by the senate of the university and sanctioned by the Government during the year, and the courses of study for these degrees have been begun at the college since January last. At the examinations for the diploma of L.M. and S. in June and November, 1906, there were 195 candidates, of whom 55 passed; six of the successful candidates were females. For the degree of M.D. there was one candidate, and he was successful. The total number of students is 638, including 100 Christians, 260 Hindus, 252 Parsis, 21 Mahomedans, and five Jews. A minor chair in bacteriology, to which Dr. N. F. Surveyor has been appointed, and two additional tutorships, one in pathology and the other in anatomy, have been sanctioned by Government. Lady Moore's bequest of £2000 has been utilised in constructing an operation theatre in connexion with the Sir Jamsetji Jeejeebhoy Hospital to be named the Sir William Moore operating theatre. The foundation stone of this theatre was laid by Lord Lamington, Governor of Bombay, in September, 1906, with Masonic rites. On the same day Lord Lamington also laid the foundation stone of the Sir Cowasji Jehangir Ophthalmic Hospital extension, to which Sir Cowasji Jehangir has contributed a munificent donation of 30,000 rupees.

June 20th.

THE PREVENTION OF CRUELTY TO CHILDREN.—On July 4th a meeting was held at Terry's Theatre, Strand, W.C., with the object of forming a committee for the Strand district to work on behalf of the National Society for the Prevention of Cruelty to Children in connexion with the Westminster branch. Colonel Clifford-Probyn, L.C.C., presided, and was supported by, among others, Mr. Edward Terry and Mrs. Terry, the Rev. J. H. S. Pennington and Mrs. Pennington, and Mr. R. J. Parr, director of the society. Mr. Parr pointed out that the objects of the society were to prevent the public and private wrongs of children and the corruption of their morals, and to enforce the laws which have been made for their protection. Last year the society dealt with 40,000 cases affecting 115,000 children. There was not the same amount of cruelty now as there was 23 years ago, but still the facts which came under the notice of the society were appalling. A society which preserved infant life and protected children from suffering had a strong claim on all men and women who believed in the future supremacy of the race. They were anxious to extend the web of their organisation throughout the country and he hoped that the meeting would result in a further extension of their work. On the proposition of Mr. Edward Terry, who incidentally mentioned that he belonged to societies which were responsible for some 3000 children, it was unanimously agreed that a committee of the National Society for the Prevention of Cruelty to Children should be formed for the Strand division.

Obituary.

SIR WILLIAM HENRY BROADBENT, BART., K.C.V.O., M.D. LOND., F.R.C.P. LOND., LL.D. EDIN. & ST. AND. & TORONTO, D.SC. LEEDS, F.R.S.

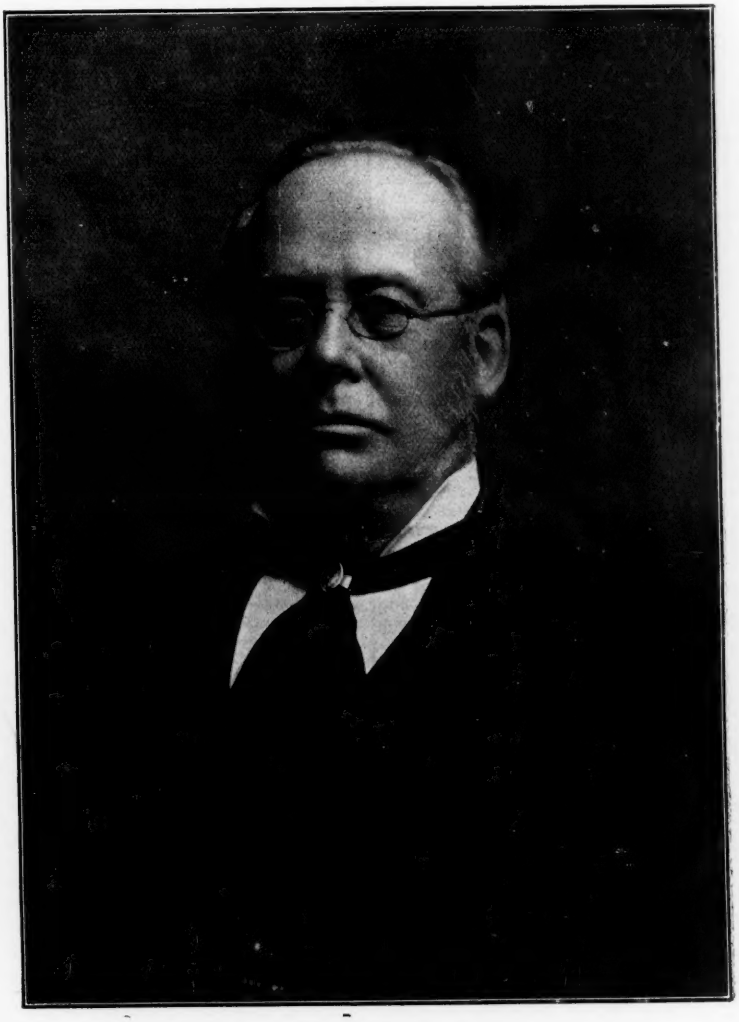
COMMANDER OF THE LEGION OF HONOUR; PHYSICIAN IN ORDINARY TO H.M. THE KING AND H.R.H. THE PRINCE OF WALES; CONSULTING PHYSICIAN TO ST. MARY'S HOSPITAL, THE LONDON FEVER HOSPITAL, AND THE NEW HOSPITAL FOR WOMEN.

THE hand of death has been heavy in the ranks of the most honoured of the medical profession during this year. It has been our sad duty to chronicle recently the loss of Dr. Robert Barnes, Sir Joseph Fayrer, Sir William Gairdner, and Dr. E. H. Bennett, and now is added the no less painful task of writing the last record of another great and strong man whose influence made a deep mark on the practice of medicine during the nineteenth century—a mark that will remain indelible, for the subject of this memoir up to the illness that led to his death evinced the strongest and most practical interest in many of those beneficent movements for united national and professional action in the battle against disease that form such a hopeful feature of the present times. Sir William Broadbent well deserved the titular distinction that came to him as a direct result of the gratitude of his Sovereign no less than of his distinguished professional ability, but we may begin our review of his career by stating that in the minds of his many friends there will be uppermost just now not the long list of professional and official honours that he so worthily earned, but the remembrance of a kind, genial, upright gentleman of whom it may be said with literal accuracy that he was the friend of the fatherless and the afflicted. To all these friends, and in still greater degree to his immediate family, we offer on behalf of our readers the expression of our deep sympathy in their irreparable loss.

Sir William Broadbent was the son of John Broadbent of Longwood Edge, Huddersfield, where he was born on Jan. 23rd, 1835. He was educated at Huddersfield College, which institution he left at the age of 16, intending, in deference to his father's wishes, to embark on a business career. Commerce, however, was not congenial to his tastes, and being permitted to follow his bent, which was towards medicine, he proceeded to the Owens College, Manchester, subsequently entering the Royal School of Medicine in that town. His student career was a brilliant one, and this was all the more creditable to him because he had no great advantages at starting. It was then the days of apprenticeship and while a mere lad with very little money to spare, and working in the distracting surroundings of a general practice, he gained medals in materia medica, botany, and midwifery in 1855 and in the following year medals in anatomy, physiology, medicine, surgery, and operative surgery. With this record it is not surprising that he gained great distinctions further afield, carrying off the gold medals in chemistry and in anatomy and physiology at the University of London in the first M.B. examination, and in the final in 1858 graduating with first-class honours in medicine and the gold medal in obstetric medicine. Previously to his final examination in London he spent eight months in Paris studying medicine, and he maintained an active interest in French medical affairs until the end of his days. In 1858 he came to London and attached himself to St. Mary's Hospital, a connexion which had a very beneficial effect in shaping the fortunes of that institution, as all those who know the history of the hospital and its medical school will testify. He held the post of obstetric officer there and both then and for some time after showed a marked predilection for that branch of the profession; indeed, nine years later he contributed a paper in the Transactions of the Obstetrical Society of London.

He was, however, destined to turn to medicine for the main business of his life and this decision was, perhaps, due to the stimulating influence of Sibson, to whom he became house physician, and in whose wards he had the privilege of listening to clinical teaching which, at any rate in relation to diseases of the chest, was at that time not to be equalled in London. It is not surprising that a teacher who loved his subject to such an extent that he would spend half an hour listening to a murmur should in some way mould the mind of his brilliant junior, and Broadbent's subsequent work in diseases of the heart was well worthy of his distinguished master. Sibson's influence naturally also turned his thoughts to pathology, for no one was more zealous in correcting the speculations of the wards by the revelations of the post-mortem room; and in 1859 young Broadbent was appointed pathologist to the hospital. The following year he took his doctorate at the University of London and began his long teaching career of 36 years in the medical school of St. Mary's Hospital. The diversity of his scientific attainments is shown by the fact that he successively held the posts of lecturer in zoology, physiology, pathology, and medicine. He was also medical superintendent of St. Mary's Hospital for a time and in 1864 he was elected physician to out-patients at the same hospital. In 1861 he became a Member and in 1869 a Fellow of the Royal College of Physicians of London. He held office on the medical staffs of several other hospitals besides St. Mary's Hospital, being appointed successively out-patient physician to the Western General Dispensary, physician to the London Fever Hospital, and later to the New Hospital for Women. But it is with St. Mary's Hospital that his name will always be associated. For 17 years Broadbent held the post of lecturer at St. Mary's Hospital, first in conjunction with the late Dr. King Chambers, from 1871 to 1877, then alone until 1882, and finally in conjunction with Dr. W. B. Cheadle until 1888. Although his interest naturally embraced the whole of inner medicine at this time he turned his more particular attention to the study of diseases of the heart and of the nervous system. About 1870 he enunciated the hypothesis that gave him his chief prominence in the field of neurology in an article contributed to the *British and Foreign Medico-Chirurgical Review* on the Association of Nerve Nuclei, by which he sought to explain the immunity of the bilaterally associated muscles from paralysis in hemiplegia. The subject of aphasia also arrested his attention and from time to time he published some interesting theories in connexion with that very vexed matter. He maintained his interest in this subject until the end of his life, and one of his most recent publications had reference to the cerebral mechanism of speech production, in which he considered from an original point of view the phenomena of word-blindness, especially in relation to the education of children. In 1888 he resigned his lectureship in medicine to take up that in clinical medicine in his hospital, and his teaching in the wards will be remembered with gratitude by many of his former pupils. After his appointment to the staff of St. Mary's Hospital his own practice as a consultant began rapidly to increase, and it was soon evident that he was destined to attain to professional pre-eminence. In 1887 at the Royal College of Physicians of London he delivered the Croonian lectures on the pulse, and these addresses stamped him as an acute observer and original thinker. They formed the groundwork of a book which he published 13 years later on the same subject, a book that should become a classic as a record of what the unaided finger could appreciate before the days of the clinical employment of the sphygmomanometer. In 1884 he delivered before the Harveian Society a set of lectures on Prognosis in Valvular Disease of the Heart, and in 1891 when it fell to him to deliver the Lumleian lectures he chose for his subject "Prognosis in Structural Diseases of the Heart."

Writing in collaboration with his eldest son, Dr. John Broadbent, in 1896 Sir William Broadbent produced a book on heart disease which is unquestionably one of the best works that has been published on that subject. Although his collaborator has been chiefly responsible for the latest edition, Sir William Broadbent accepted full responsibility for the first, and the manner of his writing gives a good insight into his method of thought and teaching. It was above all things practical and such points of outstanding importance as prognosis and treatment received far more attention than abstruse speculations on doubtful problems in hæmo-dynamics. Sir William Broadbent was content in dealing with any debateable matter to fix upon the explanation that most coincided with his own common sense, and with no more ado to pass on to something of greater clinical import. As an instance of his simple method of dealing with puzzling points we may quote his lucid little discussion on the origin of the presystolic murmur in cases of pure aortic regurgitation, the murmur that is associated with the name of Austin Flint. His classification of mitral stenosis, again, is of real practical



SIR WILLIAM H. BROADBENT, BART., K.C.V.O., M.D., F.R.S., &c.
(From a photograph by Messrs. Elliott and Fry.)

value in helping the student to appreciate the natural history of a lesion the correct interpretation of which often causes considerable trouble. The sections on prognosis were founded on matter which in the original lectures was very controversial, and it cannot be doubted that Broadbent's sound teaching on the point considerably helped the profession to the formation of the views which are now generally held. Other official lectures which he delivered were the Lettsomian, in which he considered Syphilitic Affections of the Nervous System, and in 1894 the Cavendish lecture on Some Points in the Treatment of Typhoid Fever. We had the pleasure of publishing all these dissertations in THE LANCET and know fully that their practical value was appreciated by our readers. He held office in many prominent medical societies, being successively president of the Harveian Society of London, the Medical Society of London, the Clinical Society, and the Neurological Society. In 1888–89, and again in 1895–96, he was a Censor of the Royal College of Physicians of London, and on at least two occasions he was within an ace of being elected to the presidency of that distinguished corporation.

In 1892 Broadbent was appointed physician-in-ordinary to H.R.H. the Prince of Wales, now our King, and the following year Queen Victoria conferred a baronetcy on him on the occasion of the marriage of the present Prince of Wales, then Duke of York, whom he had attended in an attack of typhoid fever two years previously. In 1898 he was appointed physician-extraordinary to the late Queen and he was physician-in-ordinary to His Majesty the King and to H.R.H. the Prince of Wales, which offices he held at the time of his death. He was, moreover, the recipient of many academical distinctions, being made an honorary LL.D. of Edinburgh in 1898 and of St. Andrews in the following year. In 1904 the University of Leeds made him an honorary Doctor of Science, and he received his last degree *honoris causâ* as late as the September of 1906, when the University of Toronto in special convocation conferred on him its LL.D. on the occasion of the meeting of the British Medical Association in that city. In 1897 Broadbent received the blue ribbon of the scientific world, when his memoirs bearing on the physiology and pathology of the nervous system and heart and also on the scientific principles of therapeutics gained him the Fellowship of the Royal Society. In 1896 he retired from active service on the staff of St. Mary's Hospital and in the following year he was presented by his former colleagues and students with a handsome service of silver plate in recognition of his merits as a clinician and teacher.

During the best years of his life he took a very active interest in all schemes of a corporate nature to promote either the welfare of his profession or the health of the nation. That by which he best deserves remembrance as showing such a fine side of his character is the British Medical Benevolent Fund, of which he was treasurer and president for many years, and on behalf of which he made frequent appeals in our columns. The problem of tuberculosis greatly occupied his attention. He was chairman of the council of the National Association for the Prevention of Tuberculosis and took a prominent part in connexion with the King's Sanatorium; he was very anxious to see some scheme carried through for the national provision of sanatoriums for workers. Another object which was very close to his heart was the establishment of a central body for the control of the London hospitals that would avert a clashing of interests between the various hospital funds. At one time he devoted a good deal of attention to the question of the duration of quarantine and infectivity in contagious disease and in 1889 he wrote on this important matter. He was a vice-president of the Cancer Research Society, and we may repeat that there was scarcely any great movement organised in behalf of national public health which did not gain his active support. We may quote other instances in the movement in favour of teaching hygiene and temperance on which he both wrote and spoke in 1905 and his support of the colonies for epileptics. He was a governor of Epsom College and he took a keen interest in his old college at Manchester, where he delivered an introductory address in 1892. We have mentioned that he maintained a lively interest in foreign medicine; he was an honorary member of many distinguished societies, such as the Verein für Innere Medicin, Berlin, the Imperial Society of Constantinople, and the Société Médicale de Genève. It was to the medical profession in France, however, that his name was best known. On the occasion of the banquet given to the French physicians and surgeons by their English colleagues when they visited London in the autumn of 1904 Sir William Broadbent made a most admirable and urbane chairman, and at the return visit to Paris during the next year he replied for the English guests at the banquet at the Grand Hotel, under the chairmanship of Professor Bouchard. This occasion must have been to Sir William Broadbent one of the most memorable of his life, for after dinner, amidst a scene of truly Gallic enthusiasm, the chairman announced that he had received a message from the President of the Republic commanding him to bestow the Grand Cross and the Insignia of a Commander of the Legion of Honour on his distinguished guest, and there was such applause consequent on the act that Sir William Broadbent's reply could scarcely be heard.

We have already alluded to several of Broadbent's contributions to literature and do not propose to give a complete bibliography, but we may mention a few more of the most important of his writings, viz.: "Theory of Construction of the Nervous System," "Structure of the Cerebral Hemispheres," "Mechanism of Speech and Thought," "Ingravescent Apoplexy," "Angina Pectoris," "Adherent Pericardium," "The Application of Chemical Principles in the Action of Remedies and Poisons," "Arterial Pressure in Bright's Disease," "The Remote Effects of Remedies," "Word-Blindness and Memory," "Vascular Tension," "Adherent Pericardium," "Myoidema," "Peritonitis," "Blood Pressure," "Aphasia," and others, many of which appeared in the columns of this journal.

The following appreciation of Sir William Broadbent as hospital teacher and member of a hospital staff is from the pen of one of his colleagues at St. Mary's Hospital:—

"It is some ten years since Sir William Broadbent gave up active work at St. Mary's Hospital, but those who have since succeeded him as members of the staff are for the most part his old pupils and they with his former colleagues deeply lament his death. For Sir William Broadbent made the interests of St. Mary's Hospital his interests and there was no movement initiated for the good of hospital or school into which he did not enter with enthusiasm and which did not receive his active support and encouragement. Busy as he was, he ever found time to attend the board of management whenever any matter of importance came up for settlement. He was one of those who provided the residential college for the students of St. Mary's Hospital, and he gave the first of a series of those post-graduate lectures which, instituted at St. Mary's, have become permanently established in London, and it was greatly due to his efforts that the enlargement of the hospital and the addition of the Clarence wing were due. At the various social gatherings and entertainments connected with hospital life, notwithstanding the many calls upon him, Sir William Broadbent always found time to be present, not as a duty but as one who enjoyed them, and brought pleasure to others by his genial presence. Throughout a busy life he never, unless actually away from town, omitted his regular visits to the wards, and it was there that the fruits of his thoughtful labours, more especially in connexion with diseases of the circulation and of the nervous system, were made manifest to those who accompanied him. For his clinical instinct, his delicacy of touch, his grasp of a case, and his remarkable powers of diagnosis were more than marked—they were impressive. Sir William Broadbent at his best was rivalled as a clinician by few in London or anywhere else. Unlike many who devote care to diagnosis, he did not consider he had done his work when he had made his diagnosis, but to the treatment of the case there was always given much care and consideration. As a teacher Sir William Broadbent was not one of those who by rhetorical art and fluent expression attracted large numbers of the type of students whose ambition is to pass their examination without acquiring more than the bare minimum of knowledge; these he did not seek to attract, nor was his teaching of the level of the text-book routine or of the tutorial style, but at the bedside he was ever ready to instruct those who wished to excel and to appreciate those minuter points in the examination and observation which made Broadbent one of the select few. No one privileged to watch his work in the wards could be anything but impressed with his powers of observation and his refinement in diagnostic skill. He was ever fresh in mind, anxious to hear and to give weight to the observations of others, and ever ready

to give fair trial to new methods of treatment. He was a good friend with a generous nature, always encouraging to his juniors and active in assisting them. Hundreds of his old pupils and resident officers owe their success to his teaching and example and bear for him an affection which he reciprocated. Others than the writer may remember among his other hospitalities the delightful evening which he afforded to them, and not less to himself, in entertaining at dinner those who had been his house physicians during his 25 years' service at St. Mary's. He was ever a loyal and esteemed colleague, no better testimony of which could be found than the fact that when the period came for his retirement the staff unanimously petitioned the governing board to alter the laws of the hospital that he might benefit the hospital by an additional five years as visiting physician."

The details of Sir William Broadbent's last illness are probably known to most of our readers, for he never desired that any mystery should be made about them. Some nine months ago he had a severe attack of pneumonia. An empyema followed which was successfully relieved by operation, but he did not recover his strength. Latterly, however, he appeared to be making real progress, but at the end of last week symptoms of fever recurred, on Tuesday evening his condition became very grave, and he died on Wednesday morning, July 10th.

Sir William Broadbent married, in 1863, Eliza, daughter of Mr. John Harpin, of Birks House, Holmfirth, Yorkshire, by whom he had two sons and three daughters. His two sons, Dr. John Francis Harpin Broadbent, who succeeds his father in the baronetcy, and Dr. Walter Broadbent, are both members of the medical profession.

It has been arranged that the funeral shall take place on Saturday. The first part of the service will be held at St. Peter's, Vere-street, Oxford-street, at 11.30 A.M., and Canon Page Roberts will officiate. Afterwards the remains will be removed from London for interment at Wendover, Bucks.

Medical News.

EXAMINING BOARD IN ENGLAND BY THE ROYAL COLLEGES OF PHYSICIANS OF LONDON AND SURGEONS OF ENGLAND.—At the second professional examination in Anatomy and Physiology on June 27th and 28th and July 1st and 2nd 95 candidates presented themselves, of whom 56 were approved and 39 were rejected. The following is a list of successful candidates:—

Rupert Blake Adams, St. Mary's Hospital; Francis Cooke Alton, St. Thomas's Hospital; Dinsha Darasha Baria, L.M. & S. Bombay, Bombay University; Albert Malcolm Barlow, London Hospital; Frank Bashford, St. Mary's Hospital; Maurice Beddow Bayly, Charing Cross Hospital; Edward Charles Beddows, Birmingham University; Guy Capper Birt, St. Thomas's Hospital; William Percy Bonner, London Hospital; Edward Moxon Browne, St. Bartholomew's Hospital; Edward Spencer Calthorpe, Charing Cross Hospital; Ralph George Dainty, Charing Cross Hospital; Samuel Danziger, Victoria University, Manchester; Frederic Nicklin Doubleday, Guy's Hospital; Arthur Downes, St. Bartholomew's Hospital; Frederick Charles Endean, M.P.S., Guy's Hospital; Hugh Arthur Evans, Westminster Hospital; Gilbert James French, Victoria University, Manchester; Gilbert Henry Colling St. George Griffiths, University College, Bristol; Alfred Edward Hamlin, St. Bartholomew's Hospital; Leonard Austin Harwood, Westminster and King's College Hospitals; Charles Ernest Howden, New Zealand University and London Hospital; Herbert Richard Barnes Hull, University College, Bristol; Stanley Gower Johnson, Middlesex Hospital; Homi Dorabji Kanga, B.A., L.M. and S. Bombay, Bombay University; Charles Haley Knowles, Leeds University; John Murgatroyd Land, Leeds University; Manly McWhinnie Lopez, University College, Bristol; Donald McCully, University College; Raymond Gabriel Maglione, Victoria University, Manchester; Philip Stanley Martin, University College; Henry Sinclair Mason, St. Mary's Hospital; Guy Matthews, King's College Hospital; James William Edwin Mendis, L.M. and S. Ceylon, Ceylon Medical College and King's College; Cyril Cassan Messiter, B.A. Cantab., Cambridge University and St. Bartholomew's Hospital; Thomas Alexander Milroy, Otago University and Glasgow University; Robert Sydney Overton, St. Thomas's Hospital; Percy Edward Hughes Patey, Guy's Hospital; Harry Platts, Guy's Hospital; Richard Bancroft Nevil Reade, St. Mary's Hospital; William Alfred Reynolds, University College, Bristol; Ernest Arthur Runting, Middlesex Hospital; Alec Linford Saul, Guy's Hospital; Edward Argent Saunders, Middlesex Hospital; William Shipton, B.A. Cantab., St. Thomas's Hospital; William Faulkner Valentine Simpson, London Hospital; Reginald Samuel Sherard Statham, University College, Bristol; Martin Phillips Thomas, B.A. Wales, King's College Hospital; Graham Yalden Thomson, Guy's Hospital; Walter Vincent Tothill, London Hospital; Ronald Herbert Vicary, Cambridge University and St. Mary's Hospital; Percy Boyd Wallis, Cambridge University and King's College Hospital; Alexander Watson, London Hospital; John Ernest Price Watts, Westminster and King's College Hospitals; Gerald Whittington, Charing Cross Hospital; and Frederick Cecil Wright, St. Bartholomew's Hospital.

SOCIETY OF APOTHECARIES OF LONDON.—At the primary examination held recently the following candidates passed in the subjects indicated:—

PART I.

Chemistry.—H. Cox, Birmingham; V. P. Norman, Durham; and C. B. Welsby, London Hospital.

Materia Medica and Pharmacy.—W. C. D'Eath, Charing Cross Hospital; and F. S. Hawks, King's College Hospital.

PART II.

Anatomy.—T. C. Clarke and W. E. Dimond, Liverpool; W. H. S. Hodge, St. Bartholomew's Hospital; W. S. Hughes, Charing Cross Hospital; E. M. Johnstone, Royal Free Hospital; J. A. Jones, Manchester; L. F. G. Lewis, St. Bartholomew's Hospital; D. J. McKinnon, Aberdeen; and P. E. H. Patey and H. C. Pugh, Guy's Hospital.

Physiology.—T. C. Clarke, Liverpool; E. C. Fisher, Royal Free Hospital; W. H. S. Hodge, St. Bartholomew's Hospital; E. M. Johnstone and A. Jonathan, Royal Free Hospital; J. A. Jones, Manchester; L. F. G. Lewis, St. Bartholomew's Hospital; and H. I. Welsh, St. Mary's Hospital.

UNIVERSITY OF BIRMINGHAM: FACULTY OF MEDICINE.—The following is a list of the successful candidates at examinations held in June:—

I. Degree of Doctor of Medicine.—Leonard George Joseph Mackey.

II. Degrees of Bachelor of Medicine and Bachelor of Surgery.—(a) Past student of Birmingham Medical School: William Frederick Ewart Ashton. (b) Under Ordinary Regulations: Class II.: Herbert Charles Horace Bracey, *†James Fenton, Philip James Mason, Nevill Coghill Penrose, Arthur Addison Sanders, Arthur John Smith, Rupert Wesley Thompson, and Herbert Henry Warren.

III. Fourth Examination for the degrees of M.B., Ch.B.—Class I.: *John Dale. Class II.: John Adams, Charlotte Bailey, George Henry Chavasse Mold, David Priestley Smith, Harold Cairns Terry, and Edward Vernon Whitby.

IV. Third Examination for the degrees of M.B., Ch.B.—Part I., Pathology and Bacteriology.—Class I.: *Herbert Henry Sampson. Class II.: Walter Charles Blackham, Norman Alexander Boswell, Harold Gordon Browning, Mary Clarke, John Selwyn Edwards, Harvey Atkins Evans, Humphrey Francis Humphreys, George Frederick Jotham, Violet Maud McCready, John Lichtenstein Ritchie, Harold Cairns Terry, Ethel Annie Waldron, and Kenneth Douglas Wilkinson. *Part II., Materia Medica and Pharmacy.*—Class I.: *Herbert Henry Sampson. Class II.: Walter Charles Blackham, Norman Alexander Boswell, Harold Gordon Browning, Mary Clarke, Humphrey Francis Humphreys, George Henry Chavasse Mold, Carl Euclid Molino, John Lichtenstein Ritchie, Ethel Annie Waldron, Harold Arthur Whitcombe, and Kenneth Douglas Wilkinson.

V. Second Examination for the degrees of M.B., Ch.B.—Class II.: Eric Walter Assinder, *Oscar Madeley Holden, Elizabeth Stephens Impey, and Ronald Douglas Nelson. Completed Examination: Charles William Hayward and Arthur Harry Newton. Passed in part of the Examination: Arthur McLean Pickup (Physiology and Comparative Anatomy) and (Henry Richmond (Biology).

VI. First Examination for the degrees of M.B., Ch.B.—Class I.: George Ernest Elkington. Class II.: Evan Davies, Christopher Charles Cole Court, John Lewis Anderton Grout, Travis Hampson, Charles Crawford Jones, Arthur Christopher Tibbits, Albert Joseph Tonkinson (External), and Alan Ayscough Wilkinson. Completed Examination: Charles Ernest Salt. Passed in part of the Examination: George Herbert Alabaster (External) (Chemistry and Physics, Robert Baxendell Coleman (Physics and Biology), Vivian Francis Eling Fox (Chemistry and Biology), and Percy Alfred Newton (Chemistry and Biology).

VII. Second Examination for the Diploma in Dental Surgery.—Alan Ayscough Wilkinson.

VIII. Diploma in Public Health.—Parts I. and II.: Ernest Frederick Wharton Bywater. *Part I.*: Tom William Beazeley and Alfred Ernest Remmett Weaver.

* Queen's scholarship. † Ingleby scholarship.

TRINITY COLLEGE, DUBLIN.—At examinations held in Trinity term the following candidates were successful:—

INTERMEDIATE MEDICAL EXAMINATION.

Part I.—Adrian Stokes, Charles M. Finny, Marius A. Diemont, Hilgard Müller, Roelif A. Albertyn, Vicars M. Fisher, Beatrice M. Hamilton, Perceval G. Leeman, Victor G. Best, David Duff (Sch.), John H. Woodroffe, Edmund F. Lawson (Sch.), John G. Ronaldson, Arthur C. Hallowes, Benjamin A. Molyneux, Louis Trichard, John G. Dods, Edward P. Allman-Smith, Edwin B. Bate, Brinsley H. Moore, and Charles Pentland.

Part II.—Albert J. Stals, John D. Kernan, Cecil P. Smyly, David Duff (Sch.), Benjamin A. Molyneux, Edwin B. Bate, Alexander K. Cosgrave, Louis Trichard, Hugh S. Metcalfe, and William A. Nicholson.

FINAL MEDICAL EXAMINATION.

Part I.—Johannes C. Pretorius, John A. W. Ponton, Richard P. Hadden, Henry H. Ormsby, Charles W. Laird, Albert E. Wynne, William E. Hopkins, Samuel F. Charles, Frank Smartt, David G. Madill, Albert V. J. Richardson, James F. Clarke, George Halpin, Herbert V. Stanley, Gerald G. Mecredy, Dixie P. Clement, Arthur H. Laird, George B. M'Hutchison, Ernest C. Lambkin, Alexander S. M. Winder, James P. S. Dunn, Norman P. Jewell, and William H. M'Carthy.

PREVIOUS DENTAL EXAMINATION.

Anatomy and Institutes of Medicine.—George Elliott.

Physics and Chemistry.—Arthur A. Campbell and Kenneth C. MacNaught.

AWARDS.

Medical travelling prize: Robert E. Wright. Medical scholarships: Anatomy and institutes of medicine—Adams A. M'Connell (Trinity) and Thomas A. Hughes (Stewart). Physics, chemistry, botany, and zoology—Henry J. Smyly (Trinity) and Herbert de L. Crawford (Stewart). Purser medal in institutes of medicine: Charles M. Finny.

DONATIONS AND BEQUESTS.—Under the will of Mr. John Doyle Fry £1000 are bequeathed to the North-Eastern Hospital for Children to endow a "John D. Fry Cot."

IN the presence of a large gathering the Mayor of Falmouth on July 5th formally opened the new winter gardens which have been provided by the corporation for the town.

MEDICAL MAGISTRATE.—Mr. David Livingstone Davies, L.R.C.P. Lond., M.R.C.S. Eng., of Criccieth, North Wales, has been placed on the commission of the peace for the county of Carnarvon.

ROYAL ALBERT EDWARD INFIRMARY AND DISPENSARY, WIGAN.—Mr. W. Mitchell Roocroft, honorary surgeon to the institution, has been re-elected chairman of the board of management of the Wigan Infirmary for the ensuing year.

PRESENTATIONS TO MEDICAL PRACTITIONERS.—At Cardiff on June 28th the members of the class of the St. John Ambulance Association, held in connexion with the Cardiff branch of the National Union of Teachers, presented Miss Erie Evans, M.B. Lond., L.S.A., with a hypodermic syringe, and Mr. Alfred Howell, M.D. Lond., L.R.C.P. Lond., M.R.C.S. Eng., with an auroscope in appreciation of their services as honorary lecturers.

THE PLUMBERS' COMPANY.—At the quarterly court held at the Guildhall on July 6th the freedom of the Worshipful Company of Plumbers was conferred on W. G. Bishop, F. Dewhurst, A. Helsby, E. B. Sawyer, and W. Worthington, young plumbers from Cardiff, Ramsbottom, Leigh (Lancashire), Barry, and Blackpool respectively. They had passed, in honours, the Company's examination in workmanship and technical knowledge and the Master of the Company (Mr. W. D. Caröe), in addressing them on admission, reminded them that they were added to the Company's long roll of craftsmen which always included in earlier times, as at the present day, men distinguished among their fellows. He urged them, as new members of a very ancient body, to respect its best traditions and to realise the growing responsibility of plumbers to safeguard for the public the sanitary and water services that become more complex with the growth of towns, and consequently demand higher craftmanship, as well as closer coöperation between those who represent the plumbing craft and those whose official and professional duty it is to act for the public in framing regulations and specifications relating to plumbers' work. "The Company's mission," he said, "was to extend the principle on which the guild was founded—namely, that craftsmanship and citizenship should go hand in hand. The citizen should recognise and respect the craftsman and the craftsman should remember the duty which he owes to the citizen to give him good work."

PROFESSOR OSLER ON WOMEN DOCTORS.—Professor William Osler, in the course of an address delivered to the students of the London (Royal Free Hospital) School of Medicine for Women on July 4th, observed that women were specially adapted for work in connexion with diseases of women and children, but the trouble was that women did not believe in women and this mistrust was one of the serious problems concerning the progress and evolution of women. One of the most important things for the students to do was so to conduct their lives that other women would have trust in them. On the whole, he considered that medicine was a satisfactory profession and satisfactory for women, but if they entered it with the idea that they were going to get a return in pounds, shillings, and pence for everything they did, they would be making the greatest mistake. People had long learned to look upon the medical profession as something far higher than a mere money-getting affair. An excellent field of work for women was offered in the studies connected with the higher problems of scientific medicine and there were good careers in laboratory work open for women in many parts of the world. Institutions and asylums afforded a line of work for women and he would like to see women physicians connected with every asylum for the insane in the country. General practice was beset with so many hardships that he advised the students to take serious counsel with their teachers, especially those who had been in general practice, before entering upon that work. In India there was ample opportunity for women and he recommended them to consider it favourably.

UGANDA PROTECTORATE.—According to the Blue-book for 1905–06 just presented to Parliament Uganda progresses in prosperity, education, and methods of local administration. It has now reached the advanced stage when the rate of progress is bound to be steady and it exhibits all the evidence of being continuous. No complete census has yet been taken. The estimated population is about 4,000,000 but this is probably too low. 2319 Christian, native, and Mahomedan marriages were celebrated during the year. Amongst Europeans there were two marriages, 12 births, and four deaths. The registration of births and deaths of natives is not yet made compulsory. The medical department is amalgamated with East Africa and is under the charge of Lieutenant-Colonel J. Will, R.A.M.C., who is assisted in Uganda by one senior medical officer and ten medical officers. Six medical officers were also appointed to assist in the new extended scheme for the investigation of sleeping sickness, and four of these have already arrived. The total cost of the medical department was £16,180. The principal medical officer reports that the health of Government officials has been good. Better sanitation, better houses, with the addition of mosquito-proof doors and windows, and extensive clearing operations in the forest and jungle near many of the principal stations have been mainly responsible for this. Three deaths have occurred among European officials—two from injury and one from malaria. Seven officials were invalided. The commonest diseases among officials were malaria, tick fever, and diseases of the digestive organs. One official has contracted sleeping sickness. Among Europeans, official and non-official, 228 have come under treatment for various diseases, fever being the cause in about half the cases. There were three cases of blackwater fever during the year, with no deaths. It is difficult to form an opinion as to the general health of the native population, as only those in the immediate vicinity of the Government stations come in for treatment. Sleeping sickness, though on the decline in some districts, is very prevalent in others and still claims its thousands of victims. 113 natives are known to have died from small-pox. Venereal disease is also very rife. The health of the troops and of the police has been satisfactory. As to sleeping sickness, there was, unfortunately, nothing new in the way of treatment or prevention to report. Taking into consideration the numbers that have fallen victims to this disease in Usoga and North Kavirondo and the reduction in population already caused by it there is reason to believe that it is dying out in these two districts. During the end of the year a scheme of extended investigation of the disease was formulated and six medical officers were appointed to carry out this work. Their investigations up to Dec. 31st were of a preliminary nature and it will take some time before any practical result can be looked for. Each medical officer has been appointed to a district in which the disease is known to exist and the lines of investigation have so far been with the object of defining exactly the tsetse fly areas and the area in which locally infected cases are found, also of studying the habits of the fly. It will be very important in this investigation to win first the confidence of the natives. At Entebbe the most important sanitary measures carried out during the last year have been the provision of mosquito-proof doors and windows to a great many of the houses, extensive clearing operations in the forest and jungle in the vicinity, and the filling in of a large number of cesspools and other places where water used to collect. The new attempt to supply Entebbe with good water by means of two windmills and tanks has proved to be inadequate for the expanding requirements. Something like a small pumping station outside Entebbe, with a delivery tank placed in the centre of the town, would, perhaps, better meet the case. At Jinja better houses have been built and extensive bush-clearing has been carried out. During the year new offices and bath-rooms have been fitted to the large European hospital at Entebbe. The native hospital has been

enlarged by the addition of two new wards. The Sleeping Sickness Hospital has been practically rebuilt, the walls having been considerably heightened and a cement floor and tin roof added. The present site of the Sleeping Sickness Laboratory has been thought unsuitable for many reasons. A new laboratory with large out-buildings and houses for the staff are under construction at a spot on the peninsula outside the township boundary. New hospitals and dispensaries have been built at Kampala, Jinja, Hoima, and Mbarara. There are no Government Asylums, poor houses, reformatories, &c., in the Protectorate.

ROYAL COLLEGE OF SURGEONS IN IRELAND.—The following prizes were awarded for the summer session. Barker anatomical prize (£31 10s.): G. S. Levis. Carmichael scholarship (£15): J. Menton. Gold medals in operative surgery: P. G. M. Elvery and T. Sheehy (equal). Stoney memorial gold medal in anatomy: Miss I. M. Clarke and G. C. Sneyd (equal). Practical histology: F. W. Warren, first prize (£2) and medal; and J. S. Pegum, second prize (£1) and certificate. Practical chemistry: H. C. Gilmore and J. Kirker (equal), first prize (£2) and medal. Public health and forensic medicine: H. Hunt, first prize (£2) and medal; and Miss C. F. Williamson, second prize (£1) and certificate. Materia medica: J. Menton, first prize (£2) and medal; and Miss C. F. Williamson, second prize (£1) and certificate. Biology: J. T. Duncan, first prize (£2) and medal; and P. V. F. Crowe, second prize (£1) and certificate. The lectures and practical courses of the winter session will commence on Tuesday, Oct. 15th.

PLAS MARIANDIR.—Some weeks ago it was mentioned by our Manchester correspondent that Plas Mariandir, at Penmaenmawr, had been taken as a seaside home for convalescents by the recently formed "Manchester and Salford Hospital Saturday and Convalescent Homes Fund Incorporated." (Surely the time is ripe for some genius to devise a simpler nomenclature for many of our institutions.) The formal opening by the Lord Mayor of Manchester took place on June 29th. The funds for the acquirement of the institutions—that at Arnside for women and that at Penmaenmawr for men—were raised by a bazaar in Manchester in the autumn of 1905. It is hoped, however, that they will be maintained and the convalescent homes movement be developed by the Hospital Saturday Fund, and also that the contributions on behalf of the hospitals will be increased. This seems a sanguine anticipation, but there is no doubt as to the ability of those interested to do this if they set themselves to the task. The present accommodation is for 45 or 50 men, and there is room for some enlargement. The urban council gave a luncheon to the Manchester and other visitors.

LITERARY INTELLIGENCE.—The next addition to the Oxford Medical Publications, to be ready next week, is "Operations of General Practice" by Mr. Edred M. Corner and Dr. H. I. Pinches. The volume contains upwards of 175 illustrations and it is meant to be a guide to the general practitioner in the performance of the more strictly surgical part of his daily routine. The Oxford University Press announces also that the first of the seven volumes of Professor Osler's "System of Medicine" is almost ready for publication. This volume deals with predisposition and immunity; diseases caused by physical, chemical, and organic agents, by vegetable parasites, by protozoa, by animal parasites, nutrition, and constitutional diseases. It has been arranged that the volumes shall be obtainable separately.—In our notice of the *Medical Directory* published by the American Medical Association which appeared last week we omitted to state that the Directory can be purchased from Messrs. W. B. Saunders Company, 9, Henrietta-street, Covent Garden, W.C. It is not necessary to apply to the American Medical Association for copies, as might have been gathered from our review.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

The Society of Apothecaries of London Act.

AMONGST the Bills which received the Royal Assent last week was the Society of Apothecaries of London Bill.

The Home Work Inquiry.

Amongst the witnesses who have given evidence before the select committee of the House of Commons which is inquiring into home work is Dr. R. Dudfield, medical officer of health of Paddington. He strongly urged on the committee that persons who took work to their own homes and performed it there for wages should register themselves with the local authorities. Without an arrangement of this kind complete protection from the spread of infectious diseases was impossible, especially in view of the fact that there was no compulsory notification of measles, whooping-cough, or phthisis.

A Royal Commission on Whisky.

The Government proposes to recommend the appointment of a Royal Commission to inquire into, and report upon, the various questions raised by recent litigation as to what constitutes "whisky." The President of the Local Government Board, however, states that he cannot yet give the terms of reference to the Commission, nor have the names of the Commissioners been announced. It is expected that the Commissioners will include amongst them several chemical experts and representative gentlemen in the whisky trade, as well as one or two lawyers.

King Edward's Hospital Fund for London.

The King Edward's Hospital Fund for London Bill has been read a third time in the House of Commons.

Lunacy in Scotland.

The forty-ninth annual report of the General Board of Commissioners in Lunacy for Scotland has been presented to Parliament. In their report the Commissioners express their deep regret at the death of Sir JOHN CHEYNE, K.C., who had been a member of the Board since 1895. They go on to state that on Jan. 1st of the present year, exclusive of insane persons maintained at home by their natural guardians, there were in Scotland 17,593 insane persons of whom they had official cognisance. In that number is included the inmates of training schools for imbecile children and of the criminal lunatic department of Perth prison. Of these 2563 were maintained from private sources, 14,979 by parochial rates, and 51 at the expense of the State. As the total number of the insane on Jan. 1st, 1906, was 17,450, an increase has taken place in the past year of 143.

HOUSE OF COMMONS.

WEDNESDAY, JULY 3RD.

Insanitary Dwellings in Ireland.

Answering Mr. O'SHAUGHNESSY, Mr. BIRRELL said: The Housing of the Working Classes Act, 1890, confers full powers on local authorities in Ireland to take proceedings with the object of having insanitary dwellings put into proper condition and in the event of default to secure the demolition of the insanitary buildings. The local authorities have no power to enter into possession of such dwellings or areas and to retain the receipts of the property in order to pay for repairs and it is not proposed to undertake legislation with that end.

THURSDAY, JULY 4TH.

Tuberculosis in Ireland.

Mr. DEVLIN asked the Chief Secretary to the Lord Lieutenant of Ireland whether his attention had been called to the recommendation of the medical superintendent officer of health of Belfast, Mr. H. W. Bailie, that the coöperation of all the medical practitioners of the city should be invited in the voluntary notification of tuberculosis and that great advantages would result therefrom in regard to precautions dealing with tuberculous houses and areas; whether the deaths from tuberculosis in Ireland were over 12,000 per annum, or 16 per cent. of the total deaths registered, and that the number in Belfast was exceptionally high; and whether, in view of the importance of the subject and the unanimous sentiment amongst Irish medical men in favour of its being dealt with promptly and thoroughly he would put himself in communication with the local authorities in Belfast, Dublin, and the principal centres of the country, with a view to taking such measures as would tend to mitigate the ravages of this disease.—Mr. BIRRELL replied: The attention of the Local Government Board has been called to the recommendation referred to in the first part of the question. The statements made in the second part of the question are substantially correct. The Local Government Board are constantly urging upon Irish local authorities the necessity for the full exercise of their powers under existing legislation with a view to checking the mortality from tuberculosis. With regard to the concluding part of the question I may say that I have already been in communication with the general council of the Irish county councils upon the subject of possible further legislation in this important matter and have promised to receive a deputation from the council on the subject in the coming autumn.

Report of the Medical Officer of Health of Portsmouth.

Mr. BRAMSDON asked the President of the Local Government Board whether his attention had been called to statements in an official report of the medical officer of health of Portsmouth that during the past 12 months 67 diseased cows had been sold for human food at sums varying from 20s. to 80s. at certain country markets, and that the diseased meat of most of these cows had been disposed of in London; and, in the event of these statements being proved correct, what steps His Majesty's Government proposed to take to prevent such a state of affairs.—Mr. BRAMSDON further asked whether the attention of the right honourable gentleman had also been called to statements in an official report by the medical officer of health of Portsmouth to the effect that the milk from cows badly diseased with tuberculosis was systematically sold; and whether, taking into consideration the statement in the interim report of the Royal Commission on Human and Animal Tuberculosis to the effect that a considerable amount of disease and loss of life, especially amongst the young, must be attributed to the consumption of cow's milk containing tubercle bacilli, together with the returns of the Registrar-General, which showed that 10,000 children under five years

of age die annually from various forms of tuberculosis, he would consider the advisability of the introduction by His Majesty's Government of legislation to prevent the keeping of tuberculous cows on dairy farms.—Mr. BURNS replied to both questions in the following terms: I am aware of the report referred to in the questions. As regards the first question I do not gather that it has been ascertained that the diseased meat of the cows mentioned in it has been disposed of in London, although London is stated to be the probable destination of many of the animals. I may point out that if any diseased animal or meat intended for the food of man is exposed for sale it is liable to inspection and seizure. The matters, however, to which the questions relate are receiving my consideration.

Mr. BRAMSDON also asked the honourable Member for South Somerset, as representing the President of the Board of Agriculture, whether his attention had been called to statements in an official report of the medical officer of health of Portsmouth, to the effect that milch cows badly diseased with tuberculosis were systematically sold for human food at certain country markets; and further, that these cows, though almost dying from disease, had up to the time of their being exposed for sale been used for the supply of milk, whether he would have the facts as stated investigated, and, if found correct, whether the Board of Agriculture would make an order, as empowered by the Diseases of Animals Act, 1894, making tuberculosis in animals the subject of administrative action by the Board.—Sir EDWARD STRACHEY answered: The attention of my noble friend (Earl Carrington) has been drawn to the report to which my honourable friend refers, but as it deals primarily with matters of public health he proposes to confer with the President of the Local Government Board before taking any action thereon.

Meat Inspection in Scotland.

Mr. WATT asked the Secretary for Scotland if he would state what sums the following county local authorities paid in 1906, or 1905 if the later date was not available, for inspecting and supervising the slaughter of animals within their jurisdiction; whether, and in what cases, these sums were paid to veterinary surgeons or to medical practitioners; and what number of carcasses, if any, were condemned in these various counties as unfit for human food—viz., Renfrew, Dumbarton, Stirling, Ayr, Linlithgow, Lanark, and Peebles.—Mr. SINCLAIR replied: It is impossible to state for any of the counties named the sums paid in any year for inspecting and supervising the slaughter of animals. Such inspection and supervision as a rule forms part of the duties of the officers of the Public Health Department, more especially the sanitary inspectors. Such officers are paid inclusive salaries and it is impossible to state exactly the amount paid in respect of the above-mentioned duty. As regards the last part of the honourable Member's question, 35 carcasses were wholly condemned and internal organs and parts of 367 other carcasses were condemned during 1906; of these carcasses, one was condemned in Dumbartonshire, one in Stirlingshire, and the remainder in the upper middle wards of Lanarkshire. None were condemned in Renfrew, Linlithgow, Ayr, or Peebles. I may explain that in the counties other than the upper middle wards of Lanarkshire a considerable proportion of the meat consumed is supplied from the public slaughter-houses situated within the burghs. For example, I am informed that in the lower ward of Lanarkshire almost the whole of the meat is obtained from Glasgow.

MONDAY, JULY 8TH.

The Consolidation of the Public Health Acts.

Sir IVOR HERBERT asked the President of the Local Government Board whether, having regard to the inconvenience experienced by local authorities in the administration of the Public Health Acts, from the fact that the law had to be sought in a large number of public Acts, and in some cases was affected by private Acts of Parliament, he could hold out any hope of bringing in a Bill next year to consolidate all enactments bearing upon the public health and to confer equal powers in respect thereto on all local authorities.—Mr. BURNS replied: I am afraid that it would not be practicable to confer equal powers in respect of public health on all local authorities. This would involve an undue interference with special powers conferred by local Acts. Moreover, powers which might properly be conferred in respect of one district would not always be suitable to another of a different character. I realise the advantage there would be in consolidating the Public Health Acts, though I think it would probably be found necessary in the first instance to amend them in some respects. I cannot give any pledge as to legislation for next year, but I shall be glad when opportunity offers to take steps in the direction indicated.

The Sanitary Condition of Lewis.

Mr. WEIR put a series of questions regarding the sanitary condition of the Island of Lewis to the Secretary for Scotland.—Mr. SINCLAIR replied that the local authority in the island was already raising and expending the full amount of its public health rate. However, he hoped to find means to enable it to do more in this respect. The whole question had his close attention.

Mr. REES: Arising out of the insanitary character attributed by the honourable Member to his constituency, may I ask the right honourable gentleman whether he will consider the advisability of lending to the Ross-shire county council the services of the medical officer for Colwyn Bay?—No answer was given.

Scarlet Fever in Stornoway.

Mr. WEIR asked the Secretary for Scotland whether he was aware that at a recent meeting of the Stornoway town council public health sub-committee a letter was read from the medical officer stating that there was reason to believe that there were many cases of scarlet fever in the town which had not been notified and that these cases were causing the spread of the disease throughout the community; and, in view of the insanitary condition of the Island of Lewis, as reported by Dr. F. Dittmar, the medical inspector of the Local Government Board for Scotland, would he state what steps the Stornoway town council was taking to prevent the spread of the scarlet fever epidemic throughout the island.—Mr. SINCLAIR said in reply: I am aware of outbreak referred to and the Local Government Board has been and still is in communication with the local authority as to measures taken to prevent the spread of disease. The disease was of so mild a type that it was mistaken for a simple sore-throat and a number of cases escaped notification. The junior and infant departments of the public school were closed and will remain so for a further period of three weeks from June 24th.

The Medical Officer of Lewis.

Mr. WEIR asked the Secretary for Scotland whether he was aware that, in defiance of the opinion expressed by the Local Government Board for Scotland that it was not possible for the duties attaching to the office of chief district medical officer in the Island of Lewis to be discharged by anyone resident in Dingwall, the Lewis district committee, at its meeting on June 26th, appointed a medical officer who was resident at Dingwall; and would steps be taken to see that the Board's views on the subject were not overriden by the local authority.—Mr. SINCLAIR answered: I am aware that the facts are as stated and the Board is considering what steps should be taken.

TUESDAY, JULY 9TH.

The Plague in India.

Mr. FIELD asked the Secretary of State for India whether he could state the total number of deaths in India from plague since it appeared, giving the number in each year; and what measures had been taken with a view of prevention.—Mr. MORLEY (by printed answer) replied: According to a return which the Government of India has lately issued the deaths are: 1896, 1704; 1897, 56,056; 1898, 117,963; 1899, 134,788; 1900, 93,150; 1901, 273,559; 1902, 577,427; 1903, 851,263; 1904, 1,022,299; 1905, 950,863; 1906, 332,181; 1907 (Jan. 1st to May 31st), 991,003; total, 5,402,245. The preventive measures which have proved most successful are (1) the systematic destruction of rats; (2) disinfection of houses and clothing; (3) evacuation of infected localities; (4) inspection of travellers; (5) segregation of the sick; and (6) inoculation. I hope shortly to lay papers upon the table which will give a fuller account of the policy of the Government of India.

Medical Officers and Veterinary Surgeons in Ireland.

Mr. SLOAN asked the Chief Secretary to the Lord Lieutenant of Ireland whether, in view of the fact that public bodies usually took the opinion of veterinary surgeons in preference to medical officers of health on questions of post-mortem symptoms and clinical appearances, he would in introducing any future legislation on such matters secure to them the same position as that held by veterinary surgeons under the Public Health Acts of Scotland.—Mr. BIRRELL replied: The suggestion contained in the question will be duly considered when further legislation in regard to public health is in contemplation.

The Preservation of Foods.

Mr. CARR-GOMM asked the President of the Local Government Board whether he was aware that borax and boric acid were largely used in the United Kingdom for the preservation of ham, bacon, milk, and other articles of food; whether their use for this purpose was permitted in the countries exporting such articles of food to the United Kingdom; whether, to be effective, the borax or boric acid must penetrate the article treated; whether, if so, any deleterious effect could be prevented by superficial washing; and whether he intended to introduce a measure forbidding the application of such preservatives to articles of food intended for consumption in this country.—Mr. BURNS, in a written reply, answered: I am aware of the facts as regards the use in the United Kingdom of borax and boric acid for the preservation of certain articles of food and that in some countries from which such articles are sent here the use of these preservatives is prohibited, although in certain of these countries the prohibition does not extend to foods prepared for export to the United Kingdom. If boron preservatives are used for packing such articles of food as hams and bacon they usually penetrate the substance of the meat and would not be removeable by superficial washing, whilst penetration must, of course, occur if solutions containing these preservatives are used for pickling or injection. The Public Health (Regulations as to Food) Bill which I have introduced, and which is now before the House, would enable the Local Government Board to make regulations for the prevention of danger to public health from the importation, preparation, and storage of articles of food intended for human consumption, and thus to deal with the matter referred to in the question.

WEDNESDAY, JULY 10TH.

The Destruction of Carcasses of Tuberculous Pigs.

Mr. SILCOCK asked the President of the Local Government Board whether his attention had been drawn to the losses which were being incurred by the farmers of this country owing to the number of carcasses of tuberculous pigs which were being destroyed by order of the medical officers of health without any compensation being paid to the owners; whether he was aware that in the majority of cases there was no indication that a pig was suffering from tuberculosis until an examination of the carcass was made; and whether he was now prepared to bring in a Bill to provide that some compensation should be given to farmers for the losses which they sustain when animals which had been apparently healthy were destroyed in the interests of the public health.—Mr. BURNS replied: I am aware that carcasses of tuberculous pigs are destroyed and this involves loss to the owners. I am also aware that in some cases the disease is not recognisable during the life of the animals; but this is not always so, and it must not be assumed that the cause of the disease is necessarily not preventable. I cannot promise to introduce a Bill for the purpose suggested.

BOOKS, ETC., RECEIVED.

FROWDE, HENRY, Oxford University Press, and HODDER AND STOUGHTON, 20, Warwick-square, London, E.C.

The Oxford Medical Publications. (In the Choice of Authors and Subjects the Publishers have had the Advantage throughout of the Advice and Assistance of William Osler, M.D., F.R.S., Regius Professor of Medicine in the University of Oxford.)

Practical Anæsthetics. By H. Edmund G. Boyle, M.R.C.S., L.R.C.P., Assistant Anæsthetist to St. Bartholomew's Hospital. Price 5*s.* net.

The Treatment of Disease in Children. By G. A. Sutherland, M.D., F.R.C.P., Physician to Paddington Green Children's Hospital, to the North-West London Hospital, and to the City Orthopædic Hospital. Price 5s. net.

Surgical Emergencies. By Percy Sargent, M.A., M.B., B.C. Cantab., F.R.C.S., Surgeon to Out-patients, St. Thomas's Hospital. Price 5s. net.

Medical Lectures and Aphorisms. By Samuel Gee, M.D., F.R.C.P., Honorary Physician to H.R.H. the Prince of Wales and Consulting Physician to St. Bartholomew's Hospital. Second edition. Price 5s. net.

The Skin Affections of Childhood. With Special Reference to those of More Common Occurrence and their Diagnosis and Treatment. By H. G. Adamson, M.D. Lond., M.R.C.P., Physician for Diseases of the Skin, Paddington Green Children's Hospital; Physician in Charge of the Skin Department (formerly Physician), North-Eastern Hospital for Children. Price 5s. net.

Diseases of the Larynx. By Harold Barwell, M.B. Lond., F.R.C.S. Eng., Surgeon for Diseases of the Throat, St. George's Hospital. Price 5s. net.

Functional Nervous Disorders in Childhood. By Leonard G. Guthrie, M.A., M.D., F.R.C.P., Senior Physician to Paddington Green Children's Hospital; Physician to the Hospital for Epilepsy and Paralysis, Maida Vale. Price 7s. 6d. net.

Cancer of the Womb: its Symptoms, Diagnosis, Prognosis, and Treatment. By Frederick John McCann, M.D. Edin., F.R.C.S. Eng., M.R.C.P. Lond., Physician to In-patients, Samaritan Free Hospital for Women, London; Lecturer on Gynæcology, Medical Graduates' College and Polyclinic, London. Price 20s. net.

GLAISHER, HENRY J., 57, Wigmore-street, Cavendish-square, London, W.

On Acute Pneumonia: its Signs, Symptoms, and Treatment. By Seymour Taylor, M.D., F.R.C.P., Physician to the West London Hospital, &c. Price 1s. net.

HIRSCHWALD, AUGUST, Unter den Linden, 68, Berlin, N.W.

Bibliothek v. Coler-Schjerning. Band XI. Zweite Auflage. Die Experimentelle Diagnostik, Serumtherapie und Prophylaxe der Infektionskrankheiten. Von Stabsarzt Prof. Dr. E. Marx. Zweite Auflage. Price M.8.

HUMANITARIAN LEAGUE, 53, Chancery-lane, London, W.C. (FIFIELD, A. C., 44, Fleet-street, London, E.C.)

Pioneers of Humanity. By Howard Williams, M.A., Author of "The Ethics of Diet." Price 6d. net.

JOHN BALE, SONS, AND DANIELSSON, LIMITED, 83-91, Great Titchfield-street, London, W.

The British Sanatoria Annual. 1907-8. Price 5s. net.

LEWIS, H. K., 136, Gower-street, London, W.C.

What to Do in Cases of Poisoning. By William Murrell, M.D., F.R.C.P., Physician to the Westminster Hospital; Lecturer on Clinical Medicine and Joint Lecturer on the Principles and Practice of Medicine; Examiner in Materia Medica in the University of Aberdeen. Tenth edition. Price not stated.

MACLEHOSE, JAMES, AND SONS, 61, St. Vincent-street, Glasgow.

George Buchanan. Glasgow Quatercentenary Studies, 1906. Price 12s. 6d. net.

MALOINE, A., 25-27, Rue de l'École-de-Médecine, Paris; Rue de la Charité, 6, Lyon.

Des Résections de l'Estomac pour Cancer. Technique, Résultats immédiats et Résultats éloignés. Par le Dr. René Leriche, Ex-interne, Lauréat des Hôpitaux (Prix Bouchet, Chirurgie, 1906), Prosecteur à la Faculté. Price not stated.

METHUEN AND CO., 36, Essex-street, Strand, London, W.C.

The Complete School Chemistry. By F. M. Oldham, B.A., Senior Chemistry Master at Dulwich College. Illustrated by F. C. Boon, B.A., Assistant Master at Dulwich College. Price 4s. 6d.

Post-Graduate Clinical Studies. For the General Practitioner. First Series. By H. Harold Scott, M.B. Lond., M.R.C.S., L.R.C.P., Fellow of the Royal Institute of Public Health; late Medical Officer in Charge of Hospital for Women and Children, Maritzburg. Price 8s.

NEW SYDENHAM SOCIETY, London. (Agent: H. K. LEWIS, 136, Gower-street, London, W.C.)

An Atlas of Illustrations of Clinical Medicine, Surgery, and Pathology. Compiled for the New Sydenham Society. (A Continuation of the "Atlas of Pathology.") Chiefly from Original Sources. Fasciculus XXVI. (Double Number.) Being XXIV. of the Clinical Atlas. Eczema, Lichen, and Tinea, Gout Tophi, Darier's Dermatosis, &c. Price to non-subscribers £1 1s.

UNIONE TIPOGRAFICO-EDITRICE TORINESE, 28, Corso Raffaello, Torino.

Manuale dell'Igienista. Per Cura del Prof. Angelo Celli, Direttore dell'Istituto d'Igiene della R. Università di Roma, con la Collaborazione di O. Casagrandi, T. Gualdi, I. Nosotti, E. Raseri, G. Roster, A. Scala, D. Spatàro. Opera in 2 volumi. Terza Edizione interamente rifatta del Manuale dell'Ufficiale Sanitario. Volume I., Parte 2a. Volume II., Parte 2a. Prezzo dell'Opera. L.40.

W. B. SAUNDERS COMPANY, Philadelphia and London.

A Manual of Personal Hygiene: Proper Living upon a Physiologic Basis. By American Authors. Edited by Walter L. Pyle, A.M., M.D., Member of the American Ophthalmological Society; Fellow of the American Academy of Medicine. Third edition, revised and enlarged. Price 6s. 6d. net.

Atlas and Epitome of Diseases of Children. By Dr. R. Hecker and Dr. J. Trumpp, of the University of Munich. Authorised Translation from the German. Edited by Isaac A. Abt, M.D., Assistant Professor of the Diseases of Children in Rush Medical College, in affiliation with the University of Chicago. Price 21s. net.

A Text-book of Embryology. For Students of Medicine. By John Clement Heisler, M.D., Professor of Anatomy in the Medico-Chirurgical College, Philadelphia. Third edition, thoroughly revised. Price 13s. net.

Diagnostics of the Diseases of Children. By Le Grand Kerr, M.D., Professor of the Diseases of Children in the Brooklyn Post Graduate Medical School; Pediatrist to the Swedish Hospital in Brooklyn; Attending Pediatrist to the Williamsburg Hospital, Brooklyn. Price 21s. net.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week such information for gratuitous publication.*

BARBER, PERCIVAL E., M.R.C.S., L.R.C.P. Lond., has been appointed Lecturer in Midwifery and Diseases of Women in the University of Sheffield.

BEATTY, W. J., L.R.C.P. Edin., L.F.P.S. Glasg., has been appointed by the Home Secretary H.M. Referee and Judges' Assessor under the Workmen's Compensation Act (1906) for County Court Circuit 15.

BENNETT, T., M.B., B.S. Glasg., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Knaresborough District of the county of York.

COATES, F. A., L.R.C.P. Lond., M.R.C.S., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Whitchurch District of the county of Hants.

CORBETT, CATHARINE L., M.B., Ch.B. Vict., has been appointed Junior Assistant Medical Officer at West Ham Union Infirmary.

FAWCETT, W. H., M.D. Brux., M.R.C.P., F.R.C.S. Edin., D.P.H. Lond., has been appointed Assistant Physician to the Royal Victoria Hospital, Bournemouth.

GOOD, ARNOLD SAXTY, L.R.C.P. Lond., M.R.C.S., has been appointed District Medical Officer by the Torrington (Devon) Board of Guardians.

GOODWYN, HENRY, L.R.C.P. & S., L.M. Edin., has been appointed Medical Officer for the Bovey Tracey District by the Newton Abbot (Devon) Board of Guardians.

HAYES, H. W. MCCAULLY, M.R.C.P. Edin., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Chief Medical Officer of the South Indian Railway, India.

JOHNSON, J., L.R.C.P. & S. Edin., L.F.P.S. Glasg., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Blackpool District of the county of Lancaster.

MORGAN, JAMES ARTHUR, L.R.C.P. Lond., M.R.C.S., L.S.A., has been appointed Medical Officer of Health for the Llanwrtyd (Brecon-shire) Urban District.

NELSON, W. E., M.R.C.S., L.R.C.P. Lond., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Henley-in-Arden District of the county of Warwick.

RICHARDS, THOMAS EDWARD, M.B., C.M. Edin., has been appointed Medical Officer and Public Vaccinator for the Ystradgynlais District by the Ystradgynlais (Breconshire) Board of Guardians.

TINLEY, W. E. F., M.D. Durh., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Whitby District of the county of York.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

ABERGAVENNY, MONMOUTHSHIRE ASYLUM.—Senior Assistant Medical Officer. Salary £250 per annum, with board, apartments, washing, and attendance.

BOLINGBROKE HOSPITAL.—Assistant Surgeon.

BRADFORD POOR LAW UNION.—Resident Assistant Medical Officer, unmarried. Salary £100, with rations, apartments, and washing.

CARMARTHENSHIRE INFIRMARY.—Resident Medical Officer, unmarried. Salary £100 per annum, with apartments, board, attendance, &c.

CHELSEA INFIRMARY, Cale-street, S.W.—Assistant Medical Officer. Salary £90, rising to £100 a year, with board, apartments, coals, gas, and washing.

COVENTRY AND WARWICKSHIRE HOSPITAL.—Junior House Surgeon for six months, subject to re-appointment. Salary £60 per annum, with rooms, board, washing, and attendance.

DEVONPORT, ROYAL ALBERT HOSPITAL.—Resident Medical Officer. Salary £100 per annum, with apartments, board, fuel, and lights.

DUMFRIES AND GALLOWAY ROYAL INFIRMARY.—Assistant House Surgeon. Salary £225 per annum, with board and washing.

EGYPT, PUBLIC HEALTH DEPARTMENT.—Sub-Inspector of Ophthalmic Hospitals.

ESSEX AND COLCHESTER GENERAL HOSPITAL.—House Physician. Salary £80 per annum, with board, residence, and washing.

GLOUCESTER GENERAL INFIRMARY AND GLOUCESTERSHIRE EYE INSTITUTION.—Assistant House Surgeoncy for six months. Salary at rate of £30 per annum, with board, residence, and washing.

HALIFAX, ROYAL HALIFAX INFIRMARY.—Second House Surgeon. Salary £100 per annum, with residence, board, and washing.

HASTINGS, ST. LEONARDS, AND EAST SUSSEX HOSPITAL.—Assistant Physician.

HOSPITAL FOR EPILEPSY AND PARALYSIS AND OTHER DISEASES OF THE NERVOUS SYSTEM, Maida Vale, W.—Physician for the Diseases of Women.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, London, W.C. House Physician, House Surgeon, Assistant Casualty Officer.

HULL, ROYAL INFIRMARY.—Casualty House Surgeon. Salary £50, with board and lodging.

KENSINGTON GENERAL HOSPITAL, Earl's-court, London, S.W.—Junior Resident Medical Officer. Salary £40 per annum, with board, washing, and residence.

LENZIE, WOODILEE ASYLUM.—Junior Assistant Medical Officer. Salary £125 per annum, with board, washing, &c.

LIVERPOOL INFIRMARY FOR CHILDREN.—House Surgeon. Salary £100 per annum, with board and lodging.
LONDON HOSPITAL, Whitechapel, E.—Surgeon-Dentist.
MIDDLESEX HOSPITAL, W.—Medical Officer and Registrar to the Cancer Department. Salary £100 per annum, with board and residence.
MOUNT VERNON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Hampstead and Northwood, Middlesex.—Clinical Assistants.
NEWPORT AND MONMOUTHSHIRE HOSPITAL.—Junior Resident Medical Officer. Salary £80 per annum, with board, residence, and laundry.
NORTHAMPTON GENERAL HOSPITAL.—House Surgeon, unmarried. Salary £90 a year, increasing to £100, with apartments, board, washing, and attendance.
NOTTINGHAM CHILDREN'S HOSPITAL.—House Surgeon (female) for six months. Salary at rate of £80 per annum, with board, residence, and washing.
PERTH ROYAL INFIRMARY.—House Surgeon. Salary £60, with board.
PRINCE OF WALES'S GENERAL HOSPITAL, Tottenham, N.—Honorary Anæsthetist.
QUEEN CHARLOTTE'S LYING-IN HOSPITAL, Marylebone road, N.W.—Resident Medical Officer for Out-patient Department for four months. Salary at rate of £60 per annum, with board, residence, and washing.
ROTHERHAM HOSPITAL AND DISPENSARY.—Senior House Surgeon. Salary £110 per annum, with rooms, commons, and washing. Also Assistant House Surgeon. Salary £80 per annum, with rooms, commons, and washing.
ROYAL DENTAL HOSPITAL, Leicester-square, W.C.—Clinical Pathologist and Demonstrator on Bacteriology. Stipend £75 a year.
ROYAL NATIONAL ORTHOPÆDIC HOSPITAL.—Honorary Assistant Anæsthetist.
ROYAL WATERLOO HOSPITAL FOR CHILDREN AND WOMEN, S.E.—Junior Resident Medical Officer. Salary at rate of £40 per annum, with board and washing.
SEAMEN'S HOSPITAL SOCIETY.—Assistant Physician. Also Assistant Surgeon.
SOUTH SHIELDS, INGHAM INFIRMARY AND SOUTH SHIELDS AND WESTOE DISPENSARY.—Junior House Surgeon. Salary £90 per annum, with residence, board, and washing.
STOCKPORT INFIRMARY.—Assistant House and Visiting Surgeon. Salary £80 per annum, with board, washing, and residence.
STOCKPORT UNION, STEPPING HILL HOSPITAL.—Resident Assistant Medical Officer. Salary £130 per annum, rising to £150, with apartments, rations, &c.
STOCKTON-ON-TEES, STOCKTON AND THORNABY HOSPITAL.—House Surgeon. Salary £180 per annum, with residence, board, and washing.
STOKE-ON-TRENT, NORTH STAFFORDSHIRE INFIRMARY AND EYE HOSPITAL, Hartshill.—Junior House Surgeon. Salary £50 per annum, with board, apartments, and washing.
TAUNTON AND SOMERSET HOSPITAL, Taunton.—House Surgeon. Salary £100 per annum, with board, lodging, and laundry. Also Resident Assistant House Surgeon for six months. Salary at rate of £50 per annum, with board, lodging, and laundry.
TUNBRIDGE WELLS GENERAL HOSPITAL.—House Surgeon, unmarried. Salary £100 per annum, with board, apartments, gas, firing, and attendance.
WEST BROMWICH DISTRICT HOSPITAL.—Senior House Surgeon, unmarried. Salary £110 per annum, with board, residence, and laundry. Also Assistant House Surgeon, unmarried. Salary £75 per annum, with board, residence, and laundry.
WEST HAM INFIRMARY, Whipps Cross-road, Leytonstone, N.E.—Medical Superintendent. Salary at rate of £700 per annum, with house, light, and coal.

The Chief Inspector of Factories, Home Office, S.W., gives notice of vacancies as Certifying Surgeons under the Factory and Workshop Act at Shaftesbury, in the county of Dorset; at Stanley, in the county of Durham; at Sturminster Newton in the county of Dorset; at Kirkcudbright, in the county of Kirkcudbright; and at Rathdowney, in Queen's County, Ireland.

Births, Marriages, and Deaths.

BIRTHS.

DODGSON.—On July 2nd, at Sherburn House, Durham, the wife of G. S. Dodgson, M.B., of a daughter.
DUIGAN.—On July 3rd, at Woodstock-road, Oxford, the wife of William Duigan M.A., M.B., of a daughter.
DUNN.—On July 6th, at Kimberley, Notts, the wife of J. Cecil S. Dunn, L.R.C.P.E., of a son.

MARRIAGE.

LAURENCE—DAVIES.—On July 6th, at St. Mark's Church, Hamilton-terrace, George Laurence, M.R.C.S., L.R.C.P., of Inchmery-road, Catford, S.E., to Olive Mary, elder daughter of F. Herbert Davies.

DEATHS.

DAVEY.—On July 5th, at Havering House, Abergavenny, Norris Fasham Davey, M.R.C.S., L.R.C.P., late of Romford, Essex, in his 88th year.
LEIGHTON.—On July 5th, aged 30, of typhoid, at the Royal Southern Hospital, Liverpool, Frederick Francis Leighton, M.B., St. John's College, Cambridge, Resident Pathologist, R.S.H., eldest son of R. L. Leighton, M.A., Chesterton, late of Bristol.
PYWELL.—On July 3rd, William Hodgson Pywell, M.R.C.S., L.R.C.P., of York-road, Lambeth, and Studley-road, Clapham, aged 62.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

COUNTRY IN TOWN.

THE second Country in Town Exhibition was opened last week at the Whitechapel Art Gallery, High-street, Whitechapel, by Mr. Lough, M.P., Parliamentary Secretary to the Board of Education. In many ways it is as good as, if not better than, the exhibition which was held last year but the charm which was then given to the exhibition by the live butterflies which flitted from flower to flower is absent. As an object lesson in the possibility of bringing some of the delights of the country into the town the exhibition must be a success and it is a pity that more exhibitions of the kind cannot be held. The exhibits from the various schools in the poor neighbourhoods of London are a credit to the teachers and give evidence that nature study is having a good effect upon the minds and artistic faculties of the children. Two of the exhibits which deserve special mention are the model recreation ground and the model backyard and garden. In the model recreation ground an effort has been made so to construct a public garden that it may be used for the purpose of educating children in the fullest sense of the term. In fact, it is "an open-air cure" applied to education. There are open-air nurseries, and beds are provided for children; they can learn to manage themselves, just as soldiers do their tents. Gardening is, of course, one of the chief features of the scheme, but there is provision for other kinds of work. For the mothers a quiet place is provided where they can bring their little ones to sleep in the sunshine while they themselves can be engaged in needlework or any other occupation. Baths are not forgotten, nor is the milk van. Miss A. C. Sewell, who has arranged and constructed the model, is to be congratulated on a well-thought-out plan full of admirable suggestions. The model back garden shows how the ordinary London back yard can be turned into a thing of beauty instead of the dirty disease-breeding space which it usually is. Not everyone, perhaps, can afford time to visit the exhibition, but every town dweller should obtain a copy of the catalogue, for it contains much interesting and useful information, such as lists of plants which will live in the air of towns, plants grown in London parks, the water fowl at Regent's Park, and the British birds that have been seen in that park. This catalogue can be obtained for a penny and the postage, but subscriptions, however small, will be gratefully received by the secretary and there is a danger that these most desirable exhibitions will have to be discontinued unless financial help is forthcoming. The exhibition, which is open from 12 noon till 9.30 P.M., will close on July 18th.

OBSTRUCTING THE HIGHWAY WITH A MOTOR-CAR.

To the Editors of THE LANCET.

SIRS,—In your note *re* Dr. R. H. Spencer and his motor-car there evidently was absolutely no "obstruction." Not being a solicitor I have not noted the cases and cannot give you chapter and verse, but I certainly have seen it decided that a trader's van may "obstruct" the roadway for a time sufficient to enable him to deliver goods. I would ask why that should be allowed if a medical man must not have his car in front of a house where he is visiting. The position is absurd, for he cannot take the car into the house with him. When out driving I have had horses frightened by flaring naphtha lamps on costermongers' carts, but these are not interfered with, and in many parts costermongers' stalls are an abominable nuisance and obstruction.

I am, Sirs, yours faithfully,

Prince of Wales-road, S.W., July 10th, 1907. A. PHILLIPS HILLS.

A COWRIE SHELL IN THE NASAL CAVITY.

To the Editors of THE LANCET.

SIRS,—The case of a "Displaced Tooth in the Nasal Cavity," having lain there for years, reported in THE LANCET of May 4th last by your Vienna correspondent, reminds me of a boy I treated about 19 years ago in the hospital at Sangor, C.P. He was brought to me for a very offensive discharge from one of the nostrils which had gone on for years—I think 14 or so. The cavity was quite blocked and the probe would not pass more than three-quarters of an inch and gave a grating sensation to the finger. Naturally a rhinolith was suspected. After having thoroughly syringed out the nasal cavity the hard substance was caught hold of by a pair of forceps and gradually loosened from its seat and removed. It looked like a calculus with a very rough exterior but after placing it in water and removing the shell it turned out, to my astonishment, to be a "cowrie" (karishell) of the size of a medium-sized almond. The peculiarity of the case lies in the foreign body having remained inside the nose for 14 years without doing any serious mischief and being, in this respect, analogous to the case of your Vienna correspondent. Children generally push in all sorts of things into their nostrils (and ears) but they are generally taken out at once as they cause great pain and inconvenience.

I am, Sirs, yours faithfully,

Arrah, June 19th, 1907. A. P. GHATAK, M.B.

SIMPLE METHOD OF URANALYSIS WANTED.

To the Editors of THE LANCET.

SIRS,—Can any of your readers inform me where I can find a description of a *simple* method for the approximate quantitative estimation in urine of (1) phosphates; inorganic sulphates; and (3) organic sulphates. The methods and apparatus usually described I consider to be too elaborate for the practitioner.

I am, Sirs, yours faithfully

July 8th, 1907. S. W.

THE VERNIX CASEOSA.

To the Editors of THE LANCET.

SIRS,—Can any of your readers give me information bearing on the theory that the vernix caseosa is caused by sexual connexion during pregnancy? I should be glad to know if this substance has any physiological function or whether there is any proof of its being harmful to the child. I am, Sirs, yours faithfully,

ROBERT M. RIGGALL, L.R.C.P. & S. Edin., L.F.P. & S. Glasg.

Hathersage, viâ Sheffield, June 27th, 1907.

A NEW BEDSIDE MAT.

WE have received from Dr. Alexander Ambrose, of Loughton, Essex, a sample of his "non-slip" mat for bedside use, devised to obviate the slipperiness of the polished floors so common in hospitals, asylums, and similar institutions. The upper surface resembles that of a piece of stout stair carpet 4 feet 6 inches long and 23 inches wide, while the under side is coated with a thin layer of a composition which, without being sticky in the slightest degree, gives a good foothold on the smoothest floor. In respect of the tendency to glide on a polished surface there is quite a contrast between the two sides of the mat. It is evidently well fitted to serve the purpose for which it is intended.

WANTED—A MEDICAL HOME IN FRANCE.

To the Editors of THE LANCET.

SIRS,—Could any of your readers tell me if there is a good medical establishment for the treatment of nervous disease at a place called Vernet sur la Seine, near Paris? Are there any French medical men who take paying guests for treatment near Biarritz or in any quiet, nice town in France? Are there any medical homes near Passy or Neuilly? I am, Sirs, yours faithfully,

July 5th, 1907. MATER.

POST SCARLATINAL BALDNESS.

To the Editors of THE LANCET.

SIRS,—A woman, aged 60 years, who contracted scarlet fever nearly four months ago, has been losing her hair (a very good crop before the illness) ever since. Can any of your readers suggest any application to arrest this loss, or any treatment likely to be beneficial, as baldness is threatened? I am, Sirs, yours faithfully,

July 9th, 1907. SENEX.

M.B. Lond.—The Workmen's Compensation Act gives power to the Secretary of State to appoint legally qualified practitioners as medical referees; application for the office should accordingly be made to him. We may remind our correspondent that "where a medical referee has been employed as a medical practitioner in connexion with any case by, or on behalf of, an employer or workman, or by insurers interested, he shall not act as medical referee in that case." A surgeon certifying a case under the Factories Act will accordingly be ineligible to act as referee in that case.

Dubiens.—It is, we believe, usual and certainly very advisable that partnership agreements between medical men should contain stipulations for fair arrangements in the case of absence of either partner on account of sickness or accident. We have never heard of a case where a sick partner having secured the services of a competent locumtenent was made the defendant in an action for damages brought against him by the other partner.

I. R.—It might be as well for our correspondent to communicate with the National Association for the Prevention o Consumption, 20, Hanover-square, London, W.

Health is referred to an annotation in THE LANCET of July 6th, page 40, entitled, "An Act to Prevent Procreation of Unfit Persons."

Lux Veritatis.—We can understand the difficulty of the insurance companies and think that their attitude is justifiable.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

During the week marked copies of the following newspapers have been received:—*Townsville Daily Bulletin* (*Queensland, Australia*), *Manchester Guardian, Chester Chronicle, Hastings and St. Leonards Observer, The North Star* (*Darlington*), *Daily Mail, Birmingham Gazette, Notts Guardian, Child's Guardian, Daily Express Advertising World, Westminster Gazette, Bristol Times, Manchester Evening Chronicle, Herald of Health, The Tribune, Stam Free Press, Newcastle Chronicle, Eastern Morning News, Lincoln Echo, Tewkesbury Record, South Wales Echo, Glasgow Evening Times, East Anglian Daily Times, Daily Graphic, Yorkshire Daily Post, Sheffield Independent.*

METEOROLOGICAL READINGS.

(*Taken daily at 8.30 a.m. by Steward's Instruments.*)

THE LANCET Office, July 11th, 1907.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radio in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
July 5	29·75	S.W.	0·07	121	66	52	54	56	Raining
,, 6	29·96	W.	...	120	67	51	53	57	Fine
,, 7	29·97	W.	...	111	64	52	53	56	Cloudy
,, 8	29·89	S.W.	...	102	62	51	53	57	Cloudy
,, 9	29·91	W.	0·01	101	65	55	56	59	Cloudy
,, 10	30·09	S.W.	0·04	109	63	54	55	58	Fine
,, 11	30·44	N.	0·14	115	63	48	52	56	Fine

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (15th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (3 P.M.), St. Mark's (2.30 P.M.).

TUESDAY (16th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (2 P.M., Ophthalmic, 2.15 P.M.), Tottenham (2.30 P.M.).

WEDNESDAY (17th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Royal Orthopædic (3 P.M.), Children, Gt. Ormond-street (9.30 A.M., Dental, 2 P.M.), Tottenham (Ophthalmic, 2.30 P.M.).

THURSDAY (18th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Orthopædic (9 A.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (2.30 P.M.), Tottenham (Gynæcological, 2.30 P.M.).

FRIDAY (19th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M., Aural, 2 P.M.), Tottenham (2.30 P.M.), St. Peter's (2 P.M.).

SATURDAY (20th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St Mary's (10 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9.30 A.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

FRIDAY (19th).—SOCIETY FOR THE STUDY OF DISEASE IN CHILDREN (11, Chandos-street, Cavendish-square, W.).—5 P.M.: Annual General Meeting.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (15th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith road, W.).—12 noon: Pathological Demonstration:—Dr. Low. 2 P.M.: Medical and Surgical Clinics. X Rays. Mr. Dunn: Diseases of the Eye. 2.30 P.M.: Operations. 5 P.M.: Lecture:—Dr. Ball: Complications of Middle Ear Suppuration (with lantern slides).

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Dr. J. M. H. MacLeod: Clinique. (Skin.)

NORTH-EAST LONDON POST-GRADUATE COLLEGE (Prince of Wales's General Hospital, Tottenham, N.).—Cliniques:—9.30 A.M.: Surgical Out-patient (Mr. H. Evans). 2.30 P.M.: Medical Out-patient (Dr. Whipham); Throat, Nose, and Ear (Mr. Carson); X Ray (Dr. Pirie).

TUESDAY (16th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—10 A.M.: Dr. Moullin: Gynæcological Operations. 2 P.M.: Medical and Surgical Clinics. X Rays. Dr. Ball: Throat, Nose, and Ear Department. 2.30 P.M.: Operations. Dr. Abraham: Diseases of the Skin. 5 P.M.: Lecture:—Dr. Ball: Complications of Middle Ear Suppuration (with lantern slides).

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Dr. C. T. Williams: Clinique. (Medical.)

NORTH-EAST LONDON POST-GRADUATE COLLEGE (Prince of Wales's General Hospital, Tottenham, N.).—Cliniques:—10.30 A.M.: Medical Out-patient (Dr. Auld). 2.30 P.M.: Gynæcological Out-patient (Dr. Giles). Surgical Out-patient (Mr. Edmunds). Surgical Operations (Mr. Carson).

CENTRAL LONDON THROAT AND EAR HOSPITAL (Gray's Inn-road, W.C.).—3.45 P.M.: Demonstration:—Dr. Atkinson: External Ear.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury, W.C.).—3.30 P.M.: Clinical Lecture:—Dr. F. Buzzard: Lumbar Puncture.

WEDNESDAY (17th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—10 A.M.: Dr. Ball: Throat, Nose, and Ear Department. Dr. Saunders: Diseases of Children. 2 P.M.: Medical and Surgical Clinics. X Rays. Mr. K. Scott: Diseases of the Eye. 2.30 P.M.: Operations. 5 P.M.: Lecture:—Mr. Pardoe: Disuria.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Mr. J. Berry: Clinique. (Surgical.)

NORTH-EAST LONDON POST-GRADUATE COLLEGE (Prince of Wales's General Hospital, Tottenham, N.).—Cliniques:—2.30 P.M.: Skin (Dr. Meachen), Eye (Mr. Brooks), Medical Out-patient (Dr. Whipham).

THURSDAY (18th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—2 P.M.: Medical and Surgical Clinics. X Rays. Mr. Dunn: Diseases of the Eye. 2.30 P.M.: Operations. 5 P.M.: Lecture:—Mr. Baldwin: Practical Surgery.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Mr. Hutchinson: Clinique. (Surgical.)

NORTH-EAST LONDON POST-GRADUATE COLLEGE (Prince of Wales's General Hospital, Tottenham, N.).—2.30 P.M.: Gynæcological Operations (Dr. Giles). Cliniques:—Medical Out-patient (Dr. Whiting), Surgical Out-patient (Mr. Carson). 3 P.M.: Medical In-patient (Dr. Chappel).

HOSPITAL FOR SICK CHILDREN (Gt. Ormond-street, W.C.).—4 P.M.: Lecture:—Mr. Lane: Fractures.

FRIDAY (19th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—10 A.M.: Dr. Moullin: Gynæcological Operations. 2 P.M.: Medical and Surgical Clinics. Dr. Ball: Throat, Nose, and Ear Department. X Rays. 2.30 P.M.: Operations. Dr. Abraham: Diseases of the Skin. 5 P.M.: Clinical Lecture:—Mr. Paget.

NORTH-EAST LONDON POST-GRADUATE COLLEGE (Prince of Wales's General Hospital, Tottenham, N.).—9.30 A.M.: Clinique:—Surgical Out-patient (Mr. H. Evans). 2.30 P.M.: Surgical Operations (Mr. Edmunds). Cliniques:—Medical Out-patient (Dr. Auld), Eye (Mr. Brooks). 3 P.M.: Medical In-patient (Dr. Leslie).

CENTRAL LONDON THROAT AND EAR HOSPITAL (Gray's Inn-road, W.C.).—3.45 P.M.: Demonstration: Dr. D. McKenzie: Thyroid and Cervical Region.

SATURDAY (20th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—10 A.M.: Dr. Ball: Diseases of the Throat, Nose, and Ear. 2 P.M.: Medical and Surgical Clinics. X Rays. Mr. K. Scott: Diseases of the Eye. 2.30 P.M.: Operations.

EDITORIAL NOTICES.

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Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

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MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

THE Index to Vol. I. of 1907, which was completed with the issue of June 29th, and the Title-page to the Volume, were given in THE LANCET of July 6th.

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